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# ENVIRONMENTAL ASSESSMENT BOARD

VOLUME: 349

DATE: Tuesday, February 4, 1992

BEFORE:

A. KOVEN Chairman

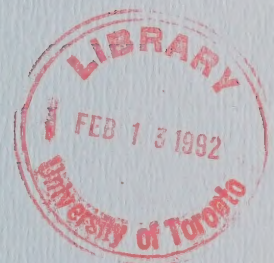
E. MARTEL Member

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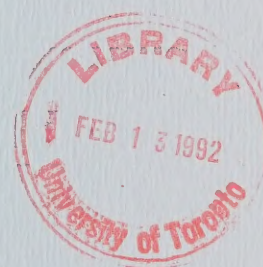
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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -

IN THE MATTER of a Notice by The Honourable  
Jim Bradley, Minister of the Environment,  
requiring the Environmental Assessment  
Board to hold a hearing with respect to a  
Class Environmental Assessment (No.  
NR-AA-30) of an undertaking by the Ministry  
of Natural Resources for the activity of  
Timber Management on Crown Lands in  
Ontario.

-----  
Hearing held at the offices of the Ontario  
Highway Transport Board, Britannica Building,  
151 Bloor Street West, 10th Floor, Toronto,  
Ontario, on Tuesday, February 4th, 1992,  
commencing at 9:00 a.m.

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Vol 349

BEFORE:

MRS. ANNE KOVEN  
MR. ELIE MARTEL

Chairman  
Member







A P P E A R A N C E S

MR. V. FREIDIN, Q.C.	)	MINISTRY OF NATURAL
MS. C. BLASTORAH	)	RESOURCES
MS. K. MURPHY	)	
MR. B. CAMPBELL	)	
MS. J. SEABORN	)	MINISTRY OF ENVIRONMENT
MS. N. GILLESPIE	)	
MR. R. TUER, Q.C.	)	ONTARIO FOREST INDUSTRY
MR. R. COSMAN	)	ASSOCIATION and ONTARIO
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MR. P.R. CASSIDY	)	ASSOCIATION
MR. D. HUNT	)	
MR. R. BERAM		ENVIRONMENTAL ASSESSMENT BOARD
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DR. T. QUINNEY	)	OF ANGLERS & HUNTERS;
MR. D. O'LEARY	)	NORTHERN ONTARIO TOURIST OUTFITTERS ASSOCIATION
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MR. M. BAEDER	)	and WINDIGO TRIBAL COUNCIL
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I N D E X   O F   P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
DENNIS KROCHAK, Resumed.	60775
Continued Cross-Examination by Mr. Freidin	60775
Re-direct Examination by Mr. O'Leary	60877
Scoping Session (OFAH/NOTO Panel 7)	60895-60907





I N D E X   O F   E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
2083	Topographic map showing a second order watershed.	60853





1 ---Upon commencing at 9:00 a.m.

2 MADAM CHAIR: Good morning. Please be  
3 seated.

4 DENNIS KROCHAK; Resumed.

5 MADAM CHAIR: Good morning, Mr. Krochak.

6 THE WITNESS: Good morning.

7 MADAM CHAIR: Good morning, Mr. Freidin.

8 MR. FREIDIN: Good morning. Ready to go?

9 MADAM CHAIR: Whenever you are.

10 CONTINUED CROSS-EXAMINATION BY MR. FREIDIN:

11 Q. Can we go back to Ministry of Natural  
12 Resources' interrogatory No. 11 where we left off  
13 yesterday. It's Exhibit 2075. The part that we are  
14 looking at is on page 12.

15 Now, I understand yesterday you were  
16 indicating, Mr. Krochak, that whether or not you had to  
17 collect information in relation to any of the six items  
18 listed would depend on the circumstances?

19 A. I'm sorry, what was that again?

20 Q. I understand where we left off  
21 yesterday was you were saying that whether or not one  
22 would have to collect information in relation to the  
23 six items listed in Roman numeral (i) to (vi) in that  
24 answer would depend on the particular circumstances?

25 A. That's correct.

1 Q. Do I take it from that that you  
2 aren't prescribing any cookbook rule which would say  
3 that you required a minimum level of information in  
4 relation to each one of those items?

5 A. Well, I'm saying that each case would  
6 have to be assessed individually.

7 Q. All right. So if each case would  
8 have to be assessed individually, I take it then you  
9 are saying that you wouldn't want to prescribe a  
10 minimum amount of information which had to be collected  
11 in every case in relation to any one of those  
12 particular matters, it would depend on the  
13 circumstances?

14 A. That's correct.

15 Q. We talked about this analysis being  
16 necessary on a case-by-case basis. Now, we looked at  
17 some area of concern documentation for the Red Lake  
18 Timber Management Plan.

19 Do I take it from your evidence that you  
20 are saying that there should be an analysis of the  
21 prescription set for every area of concern; i.e., on a  
22 case-by-case basis, and that your concern -- first of  
23 all; is that correct?

24 A. Yes, there should be an analysis,  
25 that's correct.

1 Q. And your main criticism of the Red  
2 Lake Timber Management Plan was that you didn't feel  
3 that the analysis was detailed enough; it didn't  
4 provide you the information that you would be looking  
5 for in an analysis?

6 A. My concern was that it didn't follow  
7 any -- it didn't have any reflection on an impact  
8 analysis.

9 Q. All right. I think in one case you  
10 say it basically just applied the guideline and didn't  
11 say very much more than that?

12 A. That's correct.

13 Q. And you were critical of that?

14 A. Yes, that there was no additional  
15 analysis. The data was simply recorted and even the  
16 basis that data collected under wasn't there.

17 Q. All right. Now, I'm not suggesting  
18 this is good or bad, but would you agree that for  
19 additional analysis to be included in each area of  
20 concern to address these shortfalls that you are  
21 talking about would result in more documentation being  
22 produced -- or required and, therefore, produced in  
23 relation to area of concern prescriptions?

24 A. It would take more of an effort than  
25 was in place.



1                   Q. Now, the Chair asked a question  
2 yesterday about what would happen if you didn't have  
3 any information.

4                   Now, let's assume you have got a  
5 situation where you are concerned about protecting the  
6 aquatic environment. Let's assume that for one reason  
7 or another you believe that you would like to have some  
8 of the information listed in items (i) to (vi) but you  
9 can't, let's say there is just not the manpower, there  
10 is not money to get out there and do the inventory, in  
11 that situation, am I correct that a common approach to  
12 dealing with that sort of a situation in resource  
13 management is to assume the worst-case scenario?

14                  A. A common approach is or has been  
15 used.

16                  Q. All right. I suppose one concern  
17 that one might have about following that approach of a  
18 worst-case scenario is that in some cases you might in  
19 fact be overprotecting the resource, you may in fact be  
20 doing more than is required to protect the resource; is  
21 that correct?

22                  A. Generally in the worst-case scenario,  
23 that's correct.

24                  Q. One might say that that would be --  
25 if you were taking that worst-case scenario that would

1 be a conservative approach dealing with protection?

2 A. That's assuming that the worst-case  
3 approach does apply the protection.

4 Q. All right. You better explain that.

5 A. Well, if we use the example of the  
6 guidelines, the guideline, if you took a worst-case  
7 approach and applied the rule of the guideline, you had  
8 no information so you applied the rule of 90 metres,  
9 you have made an assumption or you have implied that  
10 that will protect the resource.

11 Q. Right. Whenever you do a worst-case  
12 scenario and you apply a prescription you are assuming  
13 that your prescription is going to be effective?

14 A. No, you aren't.

15 Q. You are assuming it's going to be  
16 effective?

17 A. You're assuming it is going to have  
18 an effect. You don't know whether it is effective and  
19 that is the problem I have with the guidelines and the  
20 cookbook formula. You don't know whether it is  
21 effective nor not.

22 Q. Okay. But if you are planning on a  
23 worst-case scenario, if scientists sit down and say:  
24 We don't have the information, but we believe based on  
25 our best information that if we take this approach it

1 will protect the resource, if they apply that  
2 prescription in a case where they have no information  
3 they are basically following this worst-case scenario  
4 approach?

5 A. Yes, but you said if they had some  
6 approach. The way you worded it you implied to me they  
7 had an approach they knew would protect.

8 Q. All right. I am trying to divorce  
9 this from the actual guidelines. I am trying to talk  
10 in a sort of theoretical process approach.

11 A. Okay.

12 Q. So if in fact the prescription, the  
13 worst-case scenario prescription is one which is a good  
14 one, you know, you were satisfied the way it was  
15 developed, you are think, yes, that's probably the best  
16 prediction we can come up with in terms of what we  
17 should do in the absence of information, if you then  
18 applied that prescription you would be in fact  
19 employing this worst-case scenario approach?

20 A. That's correct. You have to bear in  
21 mind the worst-case scenario approach may very well be  
22 that nothing is done.

23 Q. That's true. Now, I know you have a  
24 concern about the way the guidelines were developed  
25 and, therefore, the way these various widths of 30, 60,



1 and 90 were addressed and we will get into that.

2 A. Mm-hmm.

3 Q. Now, you said in your evidence that  
4 the adaptive management approach would be a preferable  
5 way to dealing with, I guess, protection of the aquatic  
6 environment in the case of timber management activities  
7 being in proximity to water, that the adaptive  
8 management approach would be preferable to the  
9 guideline approach?

10 A. The adaptive management approach  
11 would be preferable in the sense that it sets up a  
12 framework for identifying cause/effect linkages and you  
13 need those understandings to be able to properly  
14 protect the environment.

15 Q. Now, when you are doing an  
16 environmental impact study for one of your capital  
17 projects, one of these plants that you work at, you  
18 told me yesterday that what you do is you sort of  
19 experiment and you tinker around until you get the  
20 right combination of pipes and things so that you know  
21 once you actually implement your activities, your plant  
22 is operational, you are going to be within the  
23 parameters set by the government, you will be meeting  
24 your objectives, water quality objectives.

25 A. Yes, we forecast what the potential

1 impacts are.

2 Q. Now, if you are doing this or  
3 applying this adaptive management approach out in the  
4 field in timber management, it seems to me that what  
5 you are suggesting is that you should go out and you  
6 should start experimenting and doing your tinkering in  
7 the field all over the place on a case-by-case basis;  
8 is that correct?

9 A. It's not -- the analogy isn't a very  
10 good one. It isn't the tinkering around. It's setting  
11 some objectives on a case-by-case basis and assessing  
12 what those impacts were afterwards. In other words,  
13 monitoring and see whether you have been able to meet  
14 those objectives.

15 Q. Right. Now, your objective when you  
16 are out in the field and you are talking about a  
17 concern about the effects on the aquatic environment  
18 would be, if we are looking at the fisheries policy, to  
19 have no adverse effects on habitat; is that correct?

20 A. It could be, yes.

21 Q. Now, if you are out there and you are  
22 experimenting in the field --

23 A. Sorry, I react to the word  
24 experiment.

25 Q. You set your objective and your

1 objective has to be, does it not, no adverse effect on  
2 habitat because that's what the Federal Fisheries Act  
3 says?

4 A. It has to a realistic objective, and  
5 it might be easier to talk in terms of something like  
6 an objective set for suspended solids because we have  
7 guidelines and so on.

8 Q. Those are water quality guidelines?

9 A. Yes, that's correct.

10 Q. Let's talk about the Fisheries Act.

11 The Fisheries Act is a federal piece of legislation and  
12 it says, as I understand your evidence, that there  
13 should be no adverse effect on fish habitat?

14 A. Yes, the overriding policy is a no  
15 net loss.

16 Q. If that is the objective, isn't that  
17 in fact setting the objective for you in relation to  
18 what is acceptable in terms of impacts of timber  
19 management activities on the aquatic environment?

20 A. Well, the policy -- referring to the  
21 policy, the policy also says that this has to be taken  
22 into account in an integrated resource management  
23 approach. In other words, there are other interests  
24 that will be considered here.

25 Q. But although it says that you have to



1 take into account other resources, does it say that you  
2 can trade off?

3 In other words, you can say I will accept  
4 an adverse effect on the habitat because in this case  
5 it will be good for the tourist industry?

6 A. Well, actually, it does say if there  
7 is an adverse effect there is a way of compensating it.  
8 So if you can't get around an adverse effect then there  
9 is a compensation approach which is taken.

10 Q. All right. So then are you  
11 suggesting then that you should be in the field, that  
12 you should in fact -- well, is your initial objective  
13 going to be to not adversely affect habitat? Will that  
14 be your initial objective?

15 A. Yes, coming from it maybe from the  
16 back way, I think the primary objective is -- there is  
17 certainly protection of habitat, but the primary  
18 objective is related to fish production.

19 Q. Right, but --

20 A. But that depends on -- that has a  
21 bearing on habitat.

22 Q. How are you going to know whether the  
23 prescription that you are applying in the field will  
24 protect fish habitat or not? How do you make that  
25 determination on a case-by-case basis?

1                   A. You do that through your monitoring  
2 program, but --

3                   Q. Not --

4                   A. At least here you have an opportunity  
5 to find out whether you are having any bearing on  
6 aquatic systems.

7                   I have to come back to the guidelines and  
8 say that the guidelines give you no information at all.  
9 You have absolutely no idea whether your 30 metre strip  
10 or whatever, the buffer that is established, is  
11 offering any protection at all.

12                  Q. Well, I suppose that the scientists  
13 who put that document together must have assumed that  
14 they were providing some level of protection. There  
15 must have been some thinking that went behind the  
16 specification of those particular widths?

17                  A. I'm sure they did.

18                  Q. All right. Now, I was asking you,  
19 how do you know whether in fact the prescription you  
20 are going to be developing on a case-by-case basis is  
21 going to work and you mentioned the monitoring program.

22                  Now, what about the front end? How do  
23 you go about designing the prescription on a  
24 case-by-case basis with the objective to achieve the  
25 objective of not adversely affecting the habitat?

1                   A. Well, you have to you -- you  
2 obviously have to look at the sensitivity of the  
3 system, of the waterbody or stream that could be  
4 affected. You have to look at the extent or what the  
5 forest management practices are going to be and so on.

6                   Q. Would you agree that there is an  
7 element of risk in terms of an adverse effect on the  
8 aquatic environment if you do anything other than  
9 worst-case scenario?

10                  A. Yes.

11                  Q. When you describe the Fish Habitat  
12 Guidelines you referred to it as a cookbook?

13                  A. Yes, that's correct.

14                  Q. I understand that the reason that you  
15 have done that is because you interpret that document  
16 as saying that when you find yourself in a certain  
17 situation with certain slopes, for example, that it is  
18 mandatory that you must impose the buffer width which  
19 is prescribed in that little chart in the guidelines?

20                  A.. Yes, with some exceptions.

21                  Q. With some exceptions?

22                  A. Well, in terms of harvest exceptions,  
23 as I read that area of concern No. 2 there was some  
24 selective cutting.

25                  Q. All right. So the guideline goes on

1 and it provides that in certain situations you can  
2 consider using selection cutting?

3 A. That's correct.

4 Q. But you say you still believe it is a  
5 cookbook because you believe that it is only in those  
6 circumstances which are identified that you are allowed  
7 to do selection cutting?

8 A. No, it's a cookbook because the  
9 buffer is based exclusively on slope.

10 Q. Well, do you believe or do you have  
11 any knowledge as to whether in fact you can -- people  
12 who are applying those guidelines can impose widths of  
13 buffers which are different than those which are  
14 described?

15 Let me go back. You have a certain slope  
16 and it recommends 30. Is it your understanding that  
17 the fisheries biologist can't say: I want to go 20 or  
18 I want to go 60 if he finds that slope? Is that your  
19 understanding of the way it works?

20 A. Well, in the application of the  
21 guideline, the way it is spelled out, it simply states  
22 slope and buffer distance with the provision for some  
23 selective cutting.

24 Q. So it is your understanding that when  
25 the fisheries biologist finds a certain kind of slope



1 the fisheries biologist has no choice in terms of  
2 prescription, that he must in fact impose the width of  
3 buffer which is referred to in the guidelines for that  
4 slope?

5 A. That's my understanding from the  
6 guidelines.

7 Q. Now, if in fact the way they are  
8 applied and the way the document is interpreted is that  
9 the fisheries biologist can deviate from those  
10 prescriptions, from those buffer widths suggested with  
11 certain slopes, if the fisheries biologist can  
12 rationalize and explain why it is reasonable to do so,  
13 would the document still be a cookbook -- not the  
14 document. Would the location of the document be a  
15 cookbook approach?

16 A. Yes. You said rationalize, and I  
17 don't know what you mean by rationalize.

18 Q. Providing --

19 A. If he is applying an adaptive  
20 management approach; in other words, he is using  
21 specific information towards certain objectives that  
22 are measurable and testable, then yes, I would agree  
23 that that would be appropriate, but if it is based  
24 entirely on some observation and a feeling, then I  
25 would disagree. I would still say it's a cookbook.

1 Q. So you define a cookbook -- whether  
2 something is a cookbook to you is not based solely on  
3 whether there is discretion to in fact employ  
4 professional judgment to do something other than the  
5 guideline?

6 A. I don't see the opportunity for  
7 discretion in the guidelines. That's why I say it is a  
8 cookbook.

9 Q. Okay. You say it is a cookbook  
10 because you see no reference in there for discretion,  
11 but I am telling you or I am suggest to you, sir, or I  
12 am asking you, if there is discretion provided to the  
13 fisheries biologist, notwithstanding how you interpret  
14 the words, I suggest to you then the application of the  
15 guideline is not a cookbook approach?

16 A. It depends on how the discretion that  
17 you say is available to the biologist. What  
18 information does he have available to him.

19 Q. Okay. You made a comment, and I get  
20 this out of the interrogatory response to OFIA No. 9.

21 Maybe you don't have to look at it, but  
22 are you suggesting that you get better protection  
23 through adaptive management than you get through  
24 constraint approach?

25 OFIA No. 9, we are looking for that one,

1 is at page 56. Do you have that, Mr. Krochak?

2 A. Yes, I do.

3 Q. The question which was asked is:

4 "What is the difference, if any, between  
5 an approach that provides protection and  
6 one that is a constraint?"

7 You indicated:

8 "The question was confusing the means  
9 with the end."

10 Then you say:

11 "Constraints are a means to achieve  
12 protection, as is the use of concrete  
13 measurable objectives in timber  
14 management plans. The difference between  
15 the two approaches is the level of  
16 protection achieved relative to site  
17 specific conditions and the effectiveness  
18 by which that protection is achieved."

19 Now, I took it from your answer that you  
20 were suggesting that you have better protection if you  
21 follow the adaptive management approach than if you  
22 apply constraints, and by constraints I assume you  
23 meant the guidelines; is that right?

24 A. Yes, the adaptive management approach  
25 provides for a better means of approaching, assessing

1 impacts to aquatic systems and then applying protection  
2 that is appropriate.

3 Q. And when you gave that answer, I  
4 assume you are assuming that the constraints which are  
5 set out in the guideline are not adequate in terms of  
6 their ability to protect the resource?

7 A. No, I'm not saying that and I have  
8 said it several times. We don't know whether the  
9 constraints in the guidelines are appropriate  
10 protection, whether they are adequate protection.

11 Q. Would you agree then it would be nice  
12 to know if, in fact, they were? If you are not sure it  
13 would be nice to know if they were?

14 A. Yes, and that's what I'm suggesting  
15 through the -- a good approach is through the adaptive  
16 management approach.

17 Q. Is it your understanding that one of  
18 the purposes of the provincial effectiveness monitoring  
19 program is to make the same assessment, to determine  
20 whether the guidelines if applied will provide adequate  
21 protection?

22 A. I can see that that is the direction  
23 or certainly the objective of it.

24 Q. Okay. Again, I know you have a  
25 preference for local effects monitoring versus that



1 kind of research and we will deal with that as well.

2 Can you turn to page 23 of the witness  
3 statement please, Exhibit 2073.

4 MADAM CHAIR: Did you say page 20, Mr.  
5 Freidin?

6 MR. FREIDIN: 23.

7 MADAM CHAIR: Thank you.

8 MR. FREIDIN: Q. Now, in these answers,  
9 42, 43 and 44, you talk about levels of protection.  
10 You talk in 44, for instance, about the worst-case  
11 assumption is a common practice in the absence of more  
12 detailed information. That's what you indicate right  
13 at the very beginning of your answer?

14 A. Mm-hmm.

15 Q. And we have sort of talked about  
16 that. In 43 -- well, in 42 it says:

17 "Are you familiar with the requirements  
18 of the Fish Habitat Guidelines and  
19 associated training message that requires  
20 the highest level of protection to be  
21 afforded when additional site specific  
22 information is not available?"

23 You said: "Yes"

24 "Is this a reasonable approach?"

25 You said:

1 "Yes, there are many merits to this  
2 approach. First, it provides assurance  
3 to the public that the maximum level of  
4 protection for aquatic resource provided  
5 under the guidelines will be given in the  
6 absence of information suggesting this  
7 level of protection is not necessary.  
8 This is consistent with the views often  
9 expressed by the public that  
10 environmental protection must be given  
11 the highest priority."

12 Now, to be fair to you, when it says  
13 "maximum level of protection for aquatic resources  
14 provided under the guidelines", are you saying -- could  
15 that be interpreted as saying maximum protection be  
16 provided or are you just maximum protection provided  
17 under the guidelines which may indeed in your view be  
18 inadequate -- not inadequate, but insufficient?

19 A. I'm referring to the guidelines.  
20 Maximum protection afforded by the guidelines.

21 Q. Afforded by the guidelines. But you  
22 still have a problem about whether in fact you are  
23 providing appropriate protection through application of  
24 the guidelines in the way you have interpreted them?

25 A. Yes, I don't know whether -- through

1 the application of the guidelines whether protection is  
2 adequate.

3 Q. Okay. Now, I understand that one of  
4 the concerns that you have about the guidelines, Fish  
5 Habitat Guidelines, and whether in fact they provide  
6 sufficient protection is the fact that they were based  
7 in some degree on the Trimble and Sartz work; is that  
8 correct?

9 A. That's certainly one element.

10 Q. Right. You indicated that there were  
11 a number of more recent articles or papers which dealt  
12 with erosion and sedimentation yesterday; is that  
13 correct?

14 A. Yes, there are.

15 Q. And those articles were referred to  
16 because you believe that they indicate a -- why were  
17 they referred to?

18 A. I wanted to give examples of a more  
19 rigorous approach to assessing erosion.

20 Q. Right. Now, am I correct that the  
21 articles that you referred to were articles which dealt  
22 with looking at erosion and sedimentation which  
23 occurred, but they did not address the question as to  
24 whether a buffer of any size would be effective or not  
25 in terms of preventing the sediment from getting into

1 the water course?

2 A. Yes, I believe that to be true, but  
3 the point is, and making the comparison to Trimble and  
4 Sartz, is that there were some very sophisticated  
5 approaches to -- or that are available and the Trimble  
6 and Sartz approach was -- certainly was I found very  
7 simplistic.

8 Q. Right. But the sophisticated  
9 approaches which are available and which are referred  
10 to in those articles are ones which deal with measuring  
11 the kinds of erosion and sedimentation which occurs  
12 sort of in the absence of a consideration as to buffer  
13 widths? Buffers, widths and --

14 Q. Well, they --

15 A. Let me finish.

16 A. Sorry.

17 Q. Buffer widths. If I understand those  
18 articles, buffer widths and the ability of buffers to  
19 prevent the soil actually getting into the stream and  
20 causing erosion were not considered in those articles.  
21 Can we just agree whether that is -- and I understand  
22 you said that's correct?

23 A. Yes, but you have to understand why  
24 where I'm coming from. Those are examples of  
25 approaches that can be used to assess effectiveness of



1 buffer strips in particular situations.

2 Q. Well, I can understand how it might  
3 be information that might be used in an attempt to  
4 design a buffer strip and say: Well, if that's the  
5 kind of erosion and, therefore, sedimentation that  
6 occurs I think maybe we should have a buffer width of  
7 "x" or "y".

8 A. No, there are models there that with  
9 the appropriate information you can assess what the  
10 erosion and, therefore, sediment input into a water  
11 system might be.

12 If you look at a 30-metre buffer strip  
13 for this particular situation, this particular slope,  
14 climatic variables, et cetera, it may or may not be  
15 appropriate. You can then reassess that.

16 Q. Right. Now, if you do that and you  
17 try to come up with a buffer width that may or may not  
18 work, would you agree that if you want to protect the  
19 environment that you usually come up with a buffer  
20 width which would be conservative?

21 You would start off with something that  
22 you thought would protect or would you start off with  
23 something that you figured, no, we won't protect a  
24 hundred per cent?

25 A. You want to determine what is an

1 appropriate protection based on objective that you have  
2 established. You can't -- I mean, and you work from  
3 there.

4 Q. All right. Let's deal with the  
5 Trimble and Sartz article which caused a concern to  
6 you. I don't know whether I got all the points down,  
7 but I wanted to confirm that I have recorded the  
8 criticisms or shortfalls that you see in that article.  
9 All right?

10 A. Yes.

11 Q. I have listed the following, you said  
12 it dealt with one soil type. Is that one?

13 A. It was -- yes, according to the  
14 article it was based on one soil type, that's right,  
15 sandy loam.

16 Q. All right. You made a comment that  
17 there was evidence that it used bedload records or  
18 tabulations, but it didn't account for the fine  
19 sediments?

20 A. Yes. It looked at, based purely on  
21 observation, the distance that sediment was found on  
22 the leaves.

23 Q. You also made reference to --

24 A. If I can just finish.

25 Q. Sorry.

1                   A. So that would not account for any of  
2                   the fines, the fine sediments. In fact, that would  
3                   only account for whatever dropped out and could be  
4                   observed to have been dropped out on to the leaves.

5                   Q. I understand you had some concern  
6                   about the manner in which hydrological data was used or  
7                   perhaps the lack of hydrological data?

8                   A. Yes, there was not hydrological data.  
9                   The only thing they looked at were some storm events.  
10                  I guess they would have made some assumptions.

11                  Q. Right. You were critical I think of  
12                  the watershed buffers being a mere doubling of the  
13                  widths that they observed in the field or some  
14                  measurement they made in the field?

15                  A. I was concerned that it was  
16                  arbitrary. His comment was perhaps double.

17                  Q. Okay. Now, those were four that I  
18                  noted. Have I missed any?

19                  A. Yes. Some of the other points I made  
20                  was the basis for determining sedimentation was very  
21                  rudimentary.

22                  Q. What do you mean by that?

23                  A. Purely observation. There were no  
24                  particular measurements before, after. It was not  
25                  quantifiable in any sense.

1 Q. They measured how far it went?

2 A. They measured how far it went, that's  
3 right. That was the exclusive measurement that was  
4 made.

5 There was no -- it also did not address  
6 the volume of sediment. Based on that paper you don't  
7 know whether the amount of sediment that appeared at  
8 that particular distance that they measured, that they  
9 observed was one per cent of the volume of the sediment  
10 or 50 per cent or more. So you have no idea of what  
11 the volume of sediment was that was involved.

12 Q. I don't understand the percentage of  
13 the sediment. When I say use the word sediment I  
14 always think that means the stuff that is in the water?

15 A. Right. So there is a load in the  
16 water.

17 Q. Right.

18 A. There is a certain amount of material  
19 in the water. We have no idea how much that was.

20 Q. Okay.

21 A. Whether what they actually observed  
22 represented -- or what they observed represented a  
23 significant portion of what was originally supplied as  
24 what you might call the so-called experimental dose or  
25 whether it was a lot or there was very little.



1                   Q. I understand what you are saying, is  
2                   that you feel that it was insufficient in that it  
3                   didn't indicate how much of the -- if they made  
4                   observations of erosion and potential sedimentation on  
5                   the ground that didn't indicate how much got into the  
6                   water. Is that what you are saying?

7                   A. No, no. I'm saying in any  
8                   experimental application you know what you start out  
9                   with and then you look at the results at the end.

10                  In this particular application, all they  
11                  are doing is looking at the final results. They have  
12                  no idea whether what finally appeared on the leaves was  
13                  a very small percentage or a very large percentage of  
14                  what the original application was.

15                  Q. All right. Is that your list?

16                  A. Yes, other than point that the  
17                  authors themselves said that it may not apply out of  
18                  this area. I think they appreciated the -- my  
19                  interpretation is they appreciated the simplistic  
20                  design of the --

21                  Q. In effect, then, you are critical of  
22                  the way those factors were addressed or not addressed  
23                  at all in the Trimble and Sartz article?

24                  A. Yes, and the measurements that were  
25                  taken; whether they are representative measurements or

1 not representative measurements.

2 Q. Do you know, Mr. Krochak, whether the  
3 provincial effects of effectiveness monitoring program  
4 will be examining the factors that you have just listed  
5 and which you are critical of, how they were dealt  
6 with?

7 A. Does that have a particular exhibit  
8 number?

9 Q. Well, you have given evidence about  
10 the provincial effectiveness monitoring and the  
11 shortfalls, Mr. Krochak.

12 What documents did you review in order to  
13 make your assessment? Maybe we should start there.

14 A. Well, if you could give me the  
15 exhibit number I could check my --

16 Q. I wasn't involved in Panel 16. I  
17 don't know what exhibit numbers there are, sir. What  
18 exhibits did you look at to give your evidence?

19 A. I reviewed the programs as it was  
20 spelled out and --

21 Q. At what time?

22 A. What do you mean at what time?

23 Q. What was the date of the document  
24 that you looked at or did it have a date on it?

25 A. It did have the date on it.

1 Q. Well, I would ask you to find the  
2 ones -- I would like you to tell me what documents you  
3 looked at as opposed to me telling you all the  
4 documents which might be in existence.

5 Don't feel rushed. Make sure you tell us  
6 about all of the documents that you looked at.

7 A. The document I reviewed is entitled  
8 Conceptual Outline of Research Activities to Assess and  
9 Monitoring Effectiveness of Timber Management  
10 Guidelines for the Protection of Fish Habitat and for  
11 the Protection of Tourism Values.

12 Q. What is the date of that document?

13 A. January 29, 1989.

14 MADAM CHAIR: Is there an exhibit number  
15 on that, Mr. Krochak?

16 THE WITNESS: I have it referred to as  
17 Exhibit 921.

18 MADAM CHAIR: Thank you.

19 MR. FREIDIN: Q. I take it then that you  
20 are unaware or you do not know whether there have been  
21 changes to or additions to the design, experimental  
22 design or methodology to be used in that project; i.e.,  
23 additions or changes since January of 1989?

24 A. I have a two-page, October 5, 1989,  
25 update on the aquatic effectiveness monitoring program.

1 Q. That's why I asked you to tell me all  
2 the documents. Let's not do this at one time, if we  
3 can.

4 Can you tell me all the documents you  
5 reviewed and you relied upon to base on your evidence  
6 comparing local effects monitoring recommended by the  
7 Coalition and the provincial program undertaken by the  
8 Ministry?

9 A. I think you are asking me something  
10 different here. The two documents which I reviewed  
11 that outline this research program, effectiveness of  
12 timber management guidelines, are the two that I have  
13 just stated.

14 Q. That's it?

15 A. That's correct.

16 Q. Okay.

17 MADAM CHAIR: Excuse me. What was the  
18 exhibit number on the two-page document, Mr. Krochak?

19 THE WITNESS: I have it penciled in here  
20 still as Exhibit 921, but...

21 MADAM CHAIR: Okay, thank you.

22 MR. FREIDIN: Q. Now, do you know, and  
23 we are talking about two documents, the latest being  
24 October the 5, 1989, do those documents indicate  
25 whether the provincial program will be examining any of



1 the factors that you were critical of?

2 I'm talking about the factors addressed  
3 or referred to in the Trimble and Sartz situation?

4 A. I guess with what I have provided  
5 here I would have to say they appear to.

6 Q. Do you agree that if that program  
7 does examine those factors obviously in an Ontario  
8 setting and that the program is designed by qualified  
9 research scientists, would you not agree, Mr. Krochak,  
10 that the results of that program will provide  
11 information, useful information which could be used to  
12 refine the buffer widths presently in the guidelines if  
13 it was shown to be necessary?

14 A. It would certainly provide some  
15 useful information. However, it brings us on another  
16 issue that I don't believe that buffer widths, even if  
17 they confirm that six per cent and 30 metres was  
18 appropriate, is appropriate for all, as an example,  
19 lake settings in all situations.

20 I certainly see in conducting a study of  
21 this sort that there is bound to be, and I would  
22 expect, some very useful information to arise from it.

23 Q. Now, can you turn to Ministry of  
24 Natural Resources' interrogatory 11. This one seems to  
25 be getting a bit of a workout. Again, back on page 12

1 of Exhibit 2075.

2 Do you have that, sir?

3 A. Yes, I do. You did say page 12?

4 Q. Yes. And, again, you will see where  
5 you have listed the items (i) to (vi) and it is the  
6 last paragraph of the answer that I want to address  
7 now. Referring to the factors listed above you say:

8 "If these factors are included I expect  
9 that you will find that few waterbodies  
10 respond in the same or a similar way due  
11 to the unique and special circumstances  
12 of each. The basic cause/effect  
13 relationship, however, can be generically  
14 applied from one system to the next; for  
15 example, biological demand for minimum  
16 oxygen levels are fairly constant from  
17 one system to the next."

18 Now, are you saying -- when you say that  
19 the basic cause/effect relationships can be generically  
20 applied, what do you mean by that?

21 A. Well, we have some basic  
22 understandings of what potential impacts are to aquatic  
23 systems related to timber management. We can classify  
24 these in terms of sedimentation and erosion, nutrient  
25 inputs, alteration in flow and temperature regimes.

1 Q. Temperature...?

2 A. Alteration to temperature.

3 Q. How do you use an understanding of  
4 generic cause/effect relationships in terms of  
5 developing prescriptions, or do you use that kind of  
6 information at all, in your view?

7 A. Yes, you do. You know that there is  
8 a potential for sediment input in aquatic system and  
9 you have to address that particular potential impact.

10 Q. One moment, please.

11 Thank you. Could you turn, please, to  
12 the Coalition's terms and conditions, term and  
13 conditions 177 and 178. You will find those at page 30  
14 of Exhibit 1637 which are the Coalition's terms and  
15 conditions. Do you have those?

16 A. Yes, I do.

17 Q. There is a section -- 177 and 178  
18 deal with Fish Habitat Guidelines as do a number of the  
19 following items. 178 refers to modification to the  
20 guidelines being made and it explains the basis of  
21 those modifications. It is the rationale that I want  
22 to ask you about. The rationale says:

23 "The OFAH is not proposing at this time  
24 that the adaptive management approach be  
25 applied to timber management/fish

1 habitat interaction. However, in the  
2 case of cumulative watershed impacts an  
3 adaptive management approach is warranted  
4 at least to developing the overall  
5 guidelines."

6 Now, I understood your evidence to be  
7 yesterday and today that we should have adaptive  
8 management on a case-by-case basis and it seems to me  
9 that that evidence is somewhat contradictory to the  
10 first sentence in the rationale on 178.

11 Now, can you agree with me that they are  
12 contradictory and -- well, can you agree with me that  
13 they are contradictory?

14 A. I'm not sure. I see that they do say  
15 "at this time".

16 Q. Well, do you have any opinion as to  
17 whether this adaptive management approach in relation  
18 to a case-by-case analysis is something which should be  
19 done now or some time in the future?

20 A. Well, I guess I'm offering the  
21 direction that I believe an adaptive management  
22 approach is the appropriate approach to follow and it  
23 would be my recommendation that -- because of what I  
24 feel about the approach that it be implemented as soon  
25 as reasonably possible.



1 Q. Okay. Are you able to provide any  
2 insight as to what the Coalition are proposing in terms  
3 of the timing of adaptive management for timber  
4 management and fish habitat interactions?

5 A. I'm not sure I can speak for the  
6 Coalition.

7 Q. Okay. Just one moment. Could you  
8 turn to term and condition 121 which you will find at  
9 page 20 of the exhibit. Do you have that?

10 A. 121 you said?

11 Q. Yes. This talks about effects  
12 monitoring for localized impacts.

13 A. Yes.

14 Q. It indicates that where in fact that  
15 is going occur you can do that by selecting  
16 representative samples and, again, it is the last  
17 sentence which intrigues me. It says:

18 "The selection of representative sites  
19 shall be circulated to the public  
20 advisory committee for their comment and  
21 approval prior to implementation."

22 Now, do you understand what the public  
23 advisory committee is?

24 A. I understand there is a public  
25 advisory committee.

1 Q. Do you understand who sits on it?

2 A. No, I don't believe I do.

3 Q. Okay. So you wouldn't be able to  
4 comment on the reasonableness of a suggestion that what  
5 would be an appropriate sampling site or what would be  
6 the appropriate representative samples be approved by  
7 them?

8 A. No, I wouldn't.

9 Q. Thank you. Now, we have talked about  
10 the provincial program which is looking at effects and  
11 effectiveness monitoring and we have talked about local  
12 effects monitoring and we started to talk about your  
13 preference for one over the other.

14 Can we agree, sir, that both of them,  
15 whether you are doing both at the same time or whether  
16 you are doing either of them, they are both directed  
17 towards learning about cause/effect relationships?

18 A. The provincial program, I'm sorry, is  
19 the research program?

20 Q. Yes. They are both -- the idea of  
21 doing either of those things is to learn about  
22 cause/effect relationships?

23 A. Yes, I would suspect so.

24 Q. Could you turn to Ministry of Natural  
25 Resources' interrogatory No. 22, please. You will find

1       that at page No. 19 at Exhibit 2075. The question  
2       arose out of an answer that you gave in your witness  
3       statement that says:

4                       "As field data are collected following  
5                       implementation of planned activity the  
6                       reliability of predisturbance forecasts  
7                       will increase substantially."

8                       I take it you are saying that of you do  
9       this monitoring, this local effects monitoring and you  
10      figure out what happened in a certain situation that  
11      should make you a better predictor the next time around  
12      when you have similar conditions?

13                      A. You have additional data to deal  
14      with.

15                      Q. Now, you indicate in the answer  
16      starting three lines down, you say:

17                      "Having explicit cause/effect  
18                      relationships and accumulating local  
19                      effects monitoring data improves  
20                      knowledge about system functioning."

21                      System functioning is basically  
22      cause/effect relationships?

23                      A. Understanding the system and the  
24      relationship, yes.

25                      Q. Then you say:

1 "All other things being equal, including  
2 natural variability, one's ability to  
3 forecast the future will be improved."

4 Now, it is my understanding, and I'm not  
5 an expert in these areas, Mr. Krochak, but natural  
6 variability is never -- by its very nature things vary  
7 and all other things will not be equal the next time  
8 you come around to make your prediction?

9 A. There certainly is natural  
10 variability. When I say all things being equal, it's  
11 more to make my point that there certainly is natural  
12 variability within the system.

13 Q. All right. Now, you say "all other  
14 things being equal including natural variability."

15 What did you have in your mind when you  
16 said, all other things being equal I will be able to  
17 forecast better in the future?

18 A. If you have a similar situation  
19 and -- if you have a very similar situation in one  
20 location and you have it in another location you can  
21 apply that information to the second location.

22 Q. Similar in what respects?

23 A. In the list of parameters that we  
24 feel are worth looking at.

25 Q. Does that take us back to the MNR 11,



1       those six factors?

2                   A.   It would take us back to, such as,  
3       the following six factors.

4                   Q.   Okay.

5                   Q.   MNR 26, which you find at the bottom  
6       of page 20, in 20(b), we asked:

7                   "Are there differences between MNR's  
8                   traditional research strategy and  
9                   the contemplated local effects monitoring  
10                  with regard to scientific rigor,  
11                  analytical precision, quality control and  
12                  expert interpretation? If so, please  
13                  describe those differences."

14                  You said:

15                  "There are differences and it clearly is  
16                  not feasible to invest this level of  
17                  resources to monitor every forest  
18                  management unit in the province."

19                  I take it what you are saying is that if  
20       you compare the local effects monitoring on the one  
21       hand and the provincial program on the other the  
22       provincial program was more scientific rigor,  
23       analytical precision, quality control and expert  
24       interpretation than does the local effects monitoring  
25       program?

1                   A. It has many more dollars applied to  
2 it. It is a much more intensive -- it's a research  
3 program or I interpret it or look at it as a research  
4 program as opposed to a monitoring program.

5                   Q. Okay.

6                   A. A monitoring program is only to  
7 establish whether objectives aren't being met, not  
8 necessarily look at every parameter from A to Z in  
9 terms of monitoring. Just the objectives that you have  
10 set. They may, as an example, be suspended solids, a  
11 certain level is being an objective and that is what  
12 you look at.

13                  Q. Right.

14                  A. So they are obviously quite worlds  
15 apart in terms of effort.

16                  Q. All right. By more dollars then, the  
17 provincial program would have more scientific rigor and  
18 the other things I mentioned because it is a --

19                  A. I would assume it would have a high  
20 degree of scientific rigor.

21                  Q. You said the local effects monitoring  
22 program looks at whether in fact the objectives have  
23 been met?

24                  A. That's correct.

25                  Q. In terms of just -- dealing with the

1 issue of costs for a local effects monitoring program  
2 and a research program that we have discussed, to be  
3 able to compare the cost you would have to know the  
4 details of the parameters which would be analysed, the  
5 spatial and temporal scale at which the predictions of  
6 the monitoring would be made?

7 A. Yes. In establishing your local  
8 effects monitoring program you would -- yes, establish  
9 where you're going to sample, how often you're going to  
10 sample, what parameters you are going to investigate  
11 and so on.

12 Q. Yesterday you talked about certain  
13 articles or programs similar to the one being done by  
14 the province, this research project having been done in  
15 other areas.

16 I think we will find that basically  
17 somewhere around page 30. Let's see if I can find it.  
18 Page 30, answer 56, where you indicate in the second  
19 paragraph of the answer that:

20 "There have been studies similar to that  
21 proposed by the Ministry of Natural  
22 Resources undertaken by jurisdictions  
23 across North America for a number of  
24 years involving research budget orders  
25 of magnitude greater than that assigned

1 to these studies."

2 A. Yes, I see that.

3 Q. All right. Now, we heard some  
4 evidence -- well, I'm having some difficulty thinking  
5 about how I want to address this problem, about you  
6 saying local effects monitoring should be the way to  
7 go.

8 I get the impression from your evidence  
9 that you are saying that you are going to learn certain  
10 things through local effects monitoring that you can't  
11 learn through provincial effectiveness monitoring  
12 program?

13 A. What I am saying is local effects  
14 monitoring will provide you with information on whether  
15 you have been able to achieve your predetermined  
16 objectives or not.

17 Q. On a case-by-case basis?

18 A. On a case-by-case basis.

19 Q. And if every situation that you are  
20 monitoring -- first of all, you said that you develop  
21 your prescriptions on a case-by-case basis because  
22 every lake is unique; is that correct?

23 A. Every lake is unique and has  
24 different sensitivities.

25 Q. All right. So do I understand that



1 it's your view then that through a local effects  
2 monitoring program where you would be seeing whether  
3 you met your objectives, because it would be dealing  
4 with unique situations, you wouldn't be able to use  
5 that knowledge that you learned on Lake A in District B  
6 to Lake X in District Z, that that's not the purpose of  
7 local effects monitoring, as least as you understand  
8 it?

9 A. No, that's not correct. It will  
10 provide information on cause and effect linkages. A  
11 local effects monitoring program won't give you all the  
12 answers, but once data starts coming in and starting to  
13 amass; in other words, you have more than one set of  
14 results from objectives established in one area, that  
15 you will then start to be able to get into this data  
16 and start getting some insights on cause and effect  
17 linkages.

18 Q. So if this local effects monitoring  
19 that you are referring to has some usefulness in your  
20 view in terms of cause/effect and provincial  
21 effectiveness monitoring has some use in terms of  
22 learning about cause and effect, do you think maybe the  
23 way to look at this is not that we should have all of  
24 one and none of the other, but maybe a little bit of  
25 both; if you can mix them together you might have the

1 best of both worlds?

2 A. Well, I have said that the research  
3 initiative is bound to give us some information.

4 If I was to put a priority I would put a  
5 priority on local effects monitoring because we can  
6 start gathering some of this information now and maybe  
7 using some of this information in a very early time  
8 frame.

9 MADAM CHAIR: Excuse me. Mr. Krochak,  
10 you are not implying that MNR doesn't collect this  
11 information now--

12 THE WITNESS: No.

13 MADAM CHAIR: --with respect to the  
14 identification of fisheries habitat information where  
15 they find it? For example, we saw on the AOC charts  
16 where they have identified in certain waterbodies  
17 spawning grounds or some value that needs protection,  
18 those are being -- that information is being complied  
19 in some way?

20 THE WITNESS: Yes, there is a compilation  
21 of data. From what I have seen it is all  
22 predevelopment type information on which to -- I guess  
23 to get some understanding of the aquatic waterbody that  
24 is being considered or that's has a potential for  
25 impact.

1                   As I understand it, and going through the  
2   AOC, that isn't the case in all situations, but there  
3   certainly is a program to collect some basic  
4   information.

5                   What I am referring to here and what I am  
6   talking about is the local effects monitoring program  
7   which is monitoring, I guess, after the fact to  
8   actually investigate whether specific objectives, let's  
9   say, in protecting the aquatic resource are actually  
10  being met, whether they are being met or not being met.

11                  MADAM CHAIR: Isn't the simplest way of  
12  doing that to -- of course you set your objective, but  
13  if your objective is to at least protect the value  
14  that's there with respect to fisheries habitat.

15                  THE WITNESS: It has to be a measurable  
16  objective and in a particular situation it may be as  
17  very simple as measuring temperature or some such  
18  parameter.

19                  It may be much more complex than that if  
20  you are looking at a very sensitive system, sensitive  
21  biologically, sensitive from the public's point of  
22  view, the example I gave yesterday about the one that's  
23  located near a large population base. So one that may  
24  have a fair angling pressure or something, whatever  
25  draws attention to that particular system.

1 MADAM CHAIR: And if public attention is  
2 not on a particular waterbody and, of course, in the  
3 area of the undertaking there are many waterbodies that  
4 are not road accessible or are not used for various  
5 reasons, then those would have a lower priority with  
6 respect to...

7 THE WITNESS: The sensitivity of that  
8 system would be definitely less sensitive, that's  
9 right, even where the biological conditions may very  
10 well be the same.

11 MR. FREIDIN: If I could just have a  
12 moment. I have lost a piece of paper.

13 It might be a convenient time for a break  
14 Madam Chair.

15 MADAM CHAIR: Mr. Freidin, when are you  
16 going to be finished your cross-examination?

17 MR. FREIDIN: I think I might, I might be  
18 finished by noon.

19 MADAM CHAIR: Good. Thank you.  
20 ---Recess at 10:20 a.m.

21 ---On resuming at 10:40 a.m.

22 MADAM CHAIR: Please be seated.

23 Mr. O'Leary, we are scoping your client's  
24 Panel 7 evidence and it was scheduled for four o'clock  
25 today. If in fact we are finished with this panel by



1       noon -- we have been trying to locate Mr. Lindgren. He  
2       is the only person who doesn't seem to be available.

3               If for some reason Mr. Pascoe can get in  
4       touch with him we could put up the scoping session to  
5       two o'clock. I don't think we will know until noon.  
6       So you might keep in touch with Mr. Pascoe. The Board  
7       is available to conduct the scoping session at two, but  
8       if we can't get ahold of Mr. Lindgren it will be four  
9       o'clock.

10              Mr. Freidin?

11              MR. FREIDIN: Q. Mr. Krochak, we left  
12       off during your referral to question 56 or answer 56  
13       where we are talked about the studies proposed by the  
14       Ministry and how they compare to studies undertaken by  
15       other jurisdictions. Are you aware -- is the name Dr.  
16       Dave Schindler familiar to you?

17              A. Yes, it is.

18              Q. Who is Dr. Schindler?

19              A. Well, he's -- I guess I would call  
20       him a limnologist active in fresh water fisheries  
21       research.

22              Q. Is he fairly highly regarded in that  
23       area in Canada?

24              A. He has published extensively.

25              Q. Dr. Robert Hecky, does that name ring

1 a bell?

2 A. It does ring a bell. I'm not  
3 familiar with his work.

4 Q. Okay. What about Dr. Jim Sedel from  
5 the Corvallis School of Forestry in Oregon?

6 A. I'm not -- I don't know of him.

7 Q. Does the name Dr. Blair Holtby mean  
8 anything to you?

9 A. No, it doesn't.

10 Q. If I suggest that that person was the  
11 analyst on the Carnation Creek project that wouldn't  
12 help you?

13 A. I guess that would help me.

14 Q. Does the name ring a bell now?

15 A. It doesn't, no. I reviewed those  
16 materials, but names I don't retain very well.

17 Q. All right. Dr. Dick Ryder?

18 A. Yes, I am familiar with him.

19 Q. Who is Dr. Ryder?

20 A. I am familiar with his papers. You  
21 might tell me where he is located these days.

22 Q. Well, can you confirm whether he is  
23 in fact the person who developed the morpho edaphic  
24 index that you referred to in your evidence?

25 A. Yes, that's correct.

1 Q. Can you turn to page 14 of your  
2 witness statement, please, the answer to No. 23. Page  
3 14, answer 23. You state in that second paragraph  
4 that:

5 "Deviations must essentially meet the  
6 adaptive management requirements I  
7 described except perhaps the need for  
8 local effects monitoring."

9 Now, what are you describing here? Are  
10 you describing the present system as you understand it  
11 employed by MNR or are you describing something else?

12 A. Yes, I'm referring to the Fish  
13 Habitat Guidelines and the approach it has taken there.

14 Q. Okay. Your reference to the  
15 "deviations must essentially meet the adaptive  
16 management requirements except perhaps the need for  
17 local effects monitoring", where do you understand  
18 there is, No. 1, a retirement that deviations must  
19 essentially meet the adaptive management requirements?  
20 What's the basis for that opinion?

21 A. No, I'm saying deviations. It's my  
22 point that deviations must meet the adaptive management  
23 requirements.

24 Q. All right.

25 A. In other words, it is my suggestion.

1                   Q. Is it, therefore, your suggestion  
2           that deviations must essentially meet the adaptive  
3           management requirements except perhaps the need for  
4           local effects monitoring? That's your suggestion?

5                   A. No, I'm suggesting that deviations  
6           such is reviewed in the AOCs, that they should have  
7           adaptive management approach.

8                   Q. Right, but you stated here in your  
9           evidence that may be that would not require or have  
10          associated with it a need for local effects monitoring.  
11          Why, in your opinion, would a local effects monitoring  
12          element not be essential?

13                   A. Well, I believe it is essential.  
14          Local effects monitoring is part of the adaptive  
15          management approach. You establish your objectives and  
16          the monitoring is the assessment of whether you have  
17          met those objectives.

18                   Q. All right, but let's look at the  
19          words. That isn't what the words seem to say. Are you  
20          basically saying these words are wrong? It says:

21                               "Deviations must essentially meet the  
22                               adaptive management requirements..."

23                   I can understand that. That's consistent  
24          with what I think you have said,

25                               "...except perhaps the need for local



1 effects monitoring."

2 I read that as saying deviations must  
3 meet the adaptive requirements, but perhaps you don't  
4 have to have a requirement for local effects  
5 monitoring. That's the way it reads to me.

6 A. Well, it is my opinion that local  
7 effects monitoring is necessary within the framework of  
8 the adaptive management approach.

9 In other words, as I've stated I guess  
10 many times, you establish objectives and in order to  
11 monitor whether you have met those objectives there is  
12 need for local effects monitoring.

13 Q. So are you telling me --

14 A. So it is within the framework of the  
15 adaptive management approach.

16 Q. All right. So are you telling me  
17 then that this sentence that I have just referred to  
18 you doesn't reflect your opinion, then?

19 A. Well, I've stated my opinion.

20 Q. Well, just as matter of interest, is  
21 your opinion consistent with what you have said in your  
22 written witness statement?

23 I am not trying to change your opinion.  
24 I will accept the opinion you have just given me  
25 orally. I want to know whether you agree that it is

1 different than what you wrote. Did you write that  
2 paragraph?

3 A. I was involved in the preparation of  
4 this paragraph.

5 Q. Is the reason you are having  
6 difficulty with it, Mr. Krochak, the fact that the  
7 way...

8 A. "Deviations must essentially meet the  
9 adaptive management requirements I have  
10 described except the need for local  
11 effects monitoring."

12 Local effects monitoring, this reflects  
13 on the deviations themselves.

14 Q. What does that mean?

15 A. Well, the deviations -- we are  
16 talking about deviations not local effects monitoring,  
17 not applying -- not being at an adaptive management  
18 level approach.

19 Q. I'm sorry? Local effects monitoring  
20 is not part of the adaptive management approach?

21 A. No, I'm saying local effects  
22 monitoring I believe should encompass the adaptive  
23 management approach.

24 It is within the context of applying the  
25 adaptive management approach to the deviations. You

1 will still have local effects monitoring within the  
2 adaptive management approach.

3 Q. You think that is what those words  
4 say?

5 Well, Mr. Krochak, when you prepared this  
6 evidence - I know you said you were involved in the  
7 preparation of it - were you presented with these  
8 questions and draft answers that you were asked to --

9 MR. O'LEARY: Madam Chair, he has  
10 answered that question once and we are with respect  
11 belaboring the point. He has given his opinion and if,  
12 as sometimes often is the case, there is some confusion  
13 in wording...

14 MR. FREIDIN: All right. I will get off  
15 of that.

16 Q. Just dealing with evidence you gave  
17 right at the beginning about this witness statement  
18 being prepared under your direction or supervision, can  
19 you tell me, did you draft the initial responses to the  
20 questions posed or did somebody give you the answers  
21 and say how do they look?

22 MR. O'LEARY: Well, he has answered that  
23 question.

24 MR. FREIDIN: No, he hasn't. It said he  
25 was involved -- no, he did not.

1                   Madam Chair, he didn't answer that  
2 question. He just said that it is done under his  
3 supervision and I want to know what that supervision  
4 involved. I want to know whether he drafted the  
5 answers to the questions that were asked or whether  
6 somebody gave him the answers to the questions asked  
7 and said: Look, can you agree with that?

8                   MR. O'LEARY: Well, those words have  
9 specific legal meanings and you are asking him now to  
10 guess at what in fact that means.

11                  MR. FREIDIN: No, I am not talking about  
12 the wording in -- close the book.

13                  MR. O'LEARY: I am not meaning that. I  
14 am talking specifically about what you are suggesting,  
15 Mr. Freidin; that is, were they prepared by you, under  
16 your direction and supervision and whether or not his  
17 interpretation of those words is the same as the legal  
18 ones is an important question that this witness has no  
19 knowledge about.

20                  MR. FREIDIN: Madam Chair, I am not  
21 asking about his legal interpretation.

22                  Q. I want to know -- my question is  
23 simply this. You have indicated that this evidence was  
24 prepared under your direction and supervision.

25                  I just want to know whether the initial



1 responses to the questions which are posed here were  
2 prepared by you and then developed so they said exactly  
3 what you wanted or were you presented with the  
4 questions and presented with the answers right off the  
5 bat?

6 MR. O'LEARY: Madam Chair, how is this  
7 relevant?

8 MADAM CHAIR: The Board is interested in  
9 the answer to that question, Mr. O'Leary.

10 THE WITNESS: Well, I have adopted this  
11 witness statement as my own and everything that is in  
12 this witness statement.

13 In the preparation of this material, as  
14 many other documents and so on that I am involved in, I  
15 have assistances in preparing it. These documents and  
16 the Coalition assisted me.

17 MR. FREIDIN: Q. I will repeat the  
18 question. I understand you have adopted it as your  
19 own.

20 The reason I am asking the question, I  
21 know you adopt it as your own, but even though you  
22 adopt it as your own, I suggest to you, would you not  
23 agree, that when a person writes evidence or writes  
24 their opinion there are nuances included in the words  
25 that are usually attributable to the person who wrote

1 it? Do you agree with that?

2 A. I guess there can be.

3 Q. All right. Well, that is why I am  
4 asking you the question and that's why I want to know  
5 whether you drafted the initial responses and then  
6 worked together with the Federation or it was the other  
7 way around because I know want to know whose nuances we  
8 are picking up here, even though you have adopted the  
9 words?

10 A. If it's nuances you're after, and  
11 certainly I am not an expert on this, what is presented  
12 here is my witness statement.

13 Q. Well, are you saying that you don't  
14 want to answer the question?

15 MR. O'LEARY: Madam Chair, with respect  
16 this is completely inappropriate.

17 I mean, if a scientist goes into the  
18 field and he takes with him two people under his  
19 command that performs the field studies, helps put  
20 together the data, perhaps even writes a portion of an  
21 opinion, he still has to or she has to go through that  
22 material, interpret it and adopt it as part of his or  
23 her paper or thesis or study or whatever is being  
24 completed.

25 I as a lawyer have to do that. I rely on

1 people in my office to go and bring in some of the  
2 research materials. They may write a portion of the  
3 document. I use other people all the time. That's a  
4 natural process. I would be very surprised if Mr.  
5 Freidin's witnesses could say that they did without the  
6 assistance of any of the people at the Ministry of  
7 Natural Resources and Mr. Freidin or any of his  
8 associates completed their witness statements and  
9 prepared for their evidence.

10 That's why I am suggesting this line of  
11 questioning is completely inappropriate. He has  
12 adopted it, he is under oath. He has stated that he  
13 has gone over the materials and it is his evidence and  
14 the fact that, you know, some wording may not be as  
15 consistent with some oral evidence is nothing that  
16 should be surprising, but it is certainly not grounds  
17 to go into what I respectfully suggest is a completely  
18 inappropriate area of questioning.

19 MR. FREIDIN: Okay. I will drop it.

20 MADAM CHAIR: Thank you, Mr. Freidin.

21 Mr. Krochak, just to clear up something  
22 for the Board. Is your view that adaptive management  
23 should be applied to local effects monitoring or should  
24 not be applied to local effects monitoring?

25 THE WITNESS: Local effects monitoring is

1 part of the -- is one step in the adaptive management  
2 approach.

3 MR. FREIDIN: Okay.

4 Q. Could you turn to --

5 MADAM CHAIR: Excuse me.

6 MR. FREIDIN: I'm sorry.

7 MADAM CHAIR: We are still left with not  
8 understanding exactly what the second paragraph on page  
9 14 is saying.

10 THE WITNESS: What I am saying is that  
11 deviations should be addressed within the adaptive  
12 management approach framework.

13 In other words, if there is an exception  
14 to be made here, how is that exception developed, on  
15 what basis is that developed and what objectives and,  
16 therefore, how does this relate to the objectives for  
17 protection of the aquatic resources that are  
18 predefined.

19 The local effects monitoring program is  
20 part of the adaptive management approach in total. So  
21 it's nested. I'm having a hard time explaining it  
22 because the words are confusing.

23 MADAM CHAIR: Do you understand that  
24 within the Fish Habitat Guidelines there is a mandatory  
25 reporting requirement for deviations?



1 THE WITNESS: Through the AOC?

2 MADAM CHAIR: The guidelines require if  
3 they are not applied as set out that the forester or  
4 biologist must record where the deviation was made and  
5 why they made it.

6 THE WITNESS: I see.

7 MADAM CHAIR: So I guess the Board's  
8 question is, you seem to be saying that deviations are  
9 somehow part of adaptive management requirements but  
10 local effects monitoring isn't part of adaptive  
11 management.

12 THE WITNESS: I'm using deviation in the  
13 sense of -- example, you have an area of concern  
14 instead of -- so there is a buffer, but you deviate  
15 from that by selective cutting.

16 MADAM CHAIR: Yes. Well, let's use  
17 another example. Let's say that a fisheries biologist  
18 decides to use a smaller buffer size or a larger buffer  
19 size than is required in the fish guidelines according  
20 to slope.

21 THE WITNESS: Okay.

22 MADAM CHAIR: If that biologist deviated  
23 from that that, according to the evidence before the  
24 Board, would show up somewhere because that decision  
25 requires some recording.

1 THE WITNESS: Right.

2 MADAM CHAIR: You are saying in this  
3 paragraph that such deviations must meet the adaptive  
4 management requirements except for local effects  
5 monitoring. The Board is still confused about this.

6 MR. MARTEL: Is there a simple  
7 explanation that an error -- that in the errata sheet  
8 that should have been corrected because it isn't  
9 obviously what you meant and it just got by everyone?

10 THE WITNESS: The wording certainly is  
11 confusing and I guess I've orally tried to explain it  
12 and haven't been able to do that.

13 MADAM CHAIR: What you want the Board to  
14 take away from this, Mr. Krochak, is you are not saying  
15 that local effects monitoring is not part of adaptive  
16 management? You are saying adaptive management  
17 definitely includes local effects monitoring?

18 THE WITNESS: That's correct.

19 MADAM CHAIR: All right. We will leave  
20 that.

21 MR. FREIDIN: Q. Now, yesterday we were  
22 talking about the Red Lake Timber Management Plan and  
23 you were talking about the level of analysis which was  
24 contained in those AOC prescriptions and you are  
25 critical of them in some respects. You expressed that

1 opinion this morning as well.

2 Could you turn to Exhibit 1637 which is  
3 the Coalition's terms and conditions and turn to page  
4 5. Do you have that?

5 A. Yes, I do.

6 Q. This deals with the subject of  
7 priority sites and it indicates in term and condition  
8 20 that:

9 "A values map shall be prepared and shall  
10 include a number of things but should  
11 not be limited to the items referred  
12 to..."

13 Human structures in one, important  
14 aquatic wildlife habitat in two, terrestrial wildlife  
15 habitat in three, et cetera.

16 Then it indicates in 21 that:

17 "For values potentially affected by the  
18 planned timber management activities in  
19 the five-year term specific prescriptions  
20 for each site shall be prepared using the  
21 appropriate design manuals."

22 Then it says:

23 "A value shall be declared a priority  
24 site where that value is potential  
25 affected by planned timber management

1 activities and an appropriate guideline  
2 or design manual has not been prepared  
3 and approved, or for a site where the  
4 propose site prescription deviates from  
5 the accepted practice due to site  
6 specific conditions."

7 Then on 23 it goes on and says that:

8 "For the priorities sites certain  
9 documentation shall be prepared."

10 Now, have you looked at these terms and  
11 conditions before giving your evidence? I can't  
12 remember whether they were referred to in your witness  
13 statement or not. They are not.

14 If you look at paragraph 9 of the witness  
15 statement, page 6, it indicates:

16 "The evidence relating to following terms  
17 and conditions..." and it didn't list  
18 these specific ones. So I am assuming that you didn't  
19 review them.

20 A. Actually, that's correct. I did not  
21 review those.

22 Q. Okay. Well, I want to spend some  
23 time on it because I think they are relevant to the  
24 subject matter, and I am not being critical of you of  
25 not having looked at them. So I am going to go slowly.



1                   If you look at the rationale for this  
2       proposal by the Coalition --

3                   MR. O'LEARY: Which one are you at?

4                   MR. FREIDIN: Well, all of them. Turn  
5       over to 19. I will start with 19.

6                   Q. It says that:

7                   "The OFAH proposed timber management  
8                   planning process is intended to replace  
9                   the area of concern planning process  
10                  proposed by the Ministry."

11                  Now, I understand that to mean that they  
12       are proposing that these terms and conditions will in  
13       fact be the ones which will indicate what gets produced  
14       in terms of documentation for areas of concern similar  
15       to the one that you looked at in the Red Lake Timber  
16       Management Plan.

17                  Can you advise me whether based on your  
18       reading you can agree or disagree?

19                  MR. O'LEARY: His reading of those terms  
20       and conditions which he hasn't seen until just now?

21                  MR. FREIDIN: That's right.

22                  MR. O'LEARY: Which terms and conditions  
23       are you asking him to read specifically?

24                  MR. FREIDIN: 19 through 23.

25                  Q. Would you need some time to do that,

1 Mr. Krochak?

2 MADAM CHAIR: Mr. Freidin, can you  
3 explain to the Board where this is going to take us?

4 We don't know whether Mr. Krochak has  
5 very much knowledge at all about the overall AOC  
6 process because it applies to more values than aquatic  
7 resources which is what Mr. Krochak is addressing.

8 MR. FREIDIN: Let me see if I can make it  
9 quite relevant.

10 Q. Go to 21. First of all, in 19 it  
11 says in the second paragraph:

12 "The basic objective is..." No. 2,  
13 "...to reduce the paperwork associated  
14 with the area of concern planning  
15 process."

16 I am asking these questions because you  
17 were critical of the amount of paperwork which was  
18 prepared for the Red Lake plan and you go down to the  
19 rationale for 21 and it says:

20 "By developing a comprehensive set of  
21 predetermined minimum actions for  
22 specific values their treatment need not  
23 be examined in detail in every case. In  
24 order to achieve this efficiency it will  
25 be necessary that the guideline provide

1 minimum standards to be applied with an  
2 exception procedure."

3 Now, if that doesn't sound like a  
4 cookbook to me, as you described it, nothing does.

5 MR. O'LEARY: Before perhaps Mr. Krochak  
6 is asked to answer this, I would ask Mr. Freidin where  
7 in the evidence he ever stated that the Red Lake Timber  
8 Management Plan -- or that he was critical of the  
9 amount of paper in the Red Lake Timber Management Plan.  
10 I don't recall anything --

11 MR. FREIDIN: I wish you wouldn't  
12 interrupt because I think he already was critical of  
13 the analysis which was there and the fact that it just  
14 relied on the guidelines and said nothing more.

15 Q. I am suggesting to you, Mr. Krochak,  
16 when I read 21 it is not doing anything different?

17 A. Actually, I have to -- notes I made  
18 while you were talking here. I was not critical of the  
19 paperwork. I reviewed the approach that was being used  
20 and how it did not fall into any sort of a reliable  
21 impact assessment approach and that was my criticism.

22 In fact, if I remember my particular  
23 comment it might help frame this, something to the  
24 effect that if I conducted assessments of this nature I  
25 would no longer be in business as I am.

1                   Q. But you don't do assessments in the  
2 context of timber management planning. My question  
3 is --

4                   A. I do assessments in the context of  
5 environmental impact assessment and that's the context  
6 with which I was reviewing those AOCs.

7                   Q. Does the first paragraph of the  
8 rationale for 21 not sound like it will result in the  
9 same absence of analysis because it says they are going  
10 to have predetermined minimum actions which is going to  
11 result in not having to examine every case in detail.  
12 I mean, doesn't it seem to be -- well, that's my  
13 question.

14                   Well, the question is, I don't know where  
15 this is all going to wash out at the end, but it seems  
16 to me if you are critical -- the same criticisms or  
17 concerns you have about the guideline approach, we are  
18 referring to the Fish Habitat Guidelines, would apply  
19 to the statement in rationale 21?

20                   A. The problem I'm having is that, first  
21 of all, it is the first time I have looked at it. I  
22 see it also deals with priority sites. I don't -- I  
23 just don't have the background here to answer this  
24 question, at least as I see it.

25                   Q. It won't take very long to figure out



1        what a priority site is because it is defined on the  
2        next page and that's the only information I have as  
3        well. Go to the term and condition itself. It says "a  
4        value" and let's just talk about the aquatic wildlife  
5        habitat as the value. It is defined basically in 20.  
6        In 20(2) they say:

7                        "Important aquatic wildlife habitat is a  
8                        value which should show up on a values  
9                        map."

10                      Okay? Follow me so far?

11                      A. Yes, important aquatic wildlife  
12        habitat.

13                      Q. Now, the term and condition then says  
14        in 22:

15                      "A value..." All right, an aquatic  
16        wildlife habitat,

17                      "...shall be declared a priority site  
18                      where the value potentially affected by  
19                      the planned timber management  
20                      activities..."

21                      Let's say that's every place where you  
22        have got harvesting next to waterbodies, but then it  
23        adds:

24                      "...and an appropriate guideline or  
25                      design manual has not been prepared and

1                   approved..."

2                   The way I read that, would you not agree  
3   with me, that if you have a guideline prepared and  
4   approved to deal with the potential effects of timber  
5   management on the aquatic environment you would have an  
6   appropriate guideline and, therefore, that particular  
7   site wouldn't be a priority site? Would you agree with  
8   me so far?

9                   A. I can't say that I'm following you  
10   very well here. I don't know the intent of the word  
11   guideline here. I think I really have to leave that to  
12   the -- I can't speak for the Coalition on that.

13                   I can certainly think of guidelines that  
14   would include approaches. A guideline may be that a  
15   certain assessment should be done with some predictive  
16   process and so on. So I don't feel I can respond to  
17   it.

18                   Q. That's fine. I think that's a fair  
19   comment. It then goes on and it says -- let's see if  
20   we can deal with the second one.

21                   "The value shall be declared a priority  
22                   site where it is potentially affected by  
23                   planned timber management activities  
24                   where the proposed site prescription  
25                   deviates from accepted practice due to

1 site specific conditions."

2 Are you able to provide any assistance as  
3 to whether that accepted practice has to be documented  
4 somewhere so you can determine that you are deviating  
5 or not? Maybe you can't answer that because you are  
6 not with the Coalition.

7 A. I don't feel I can respond to that.

8 Q. Okay. So in 22, the rationale for  
9 22.

10 A. 22?

11 Q. The rationale for 22.

12 A. Okay.

13 Q. It says:

14 "In situations where either guidelines.."  
15 and I know you have difficulty in understanding what  
16 guidelines means. It says:

17 "In situations where either guidelines do  
18 not exist or a deviation from the  
19 guidelines is proposed, then the  
20 acceptable level of treatment must be  
21 decided on a site-specific basis. In  
22 these exceptional cases the value will be  
23 declared a priority site."

24 Now, you have said that you must in fact  
25 examine each value, each lake on a case-by-case basis.

1 I read this, and I just want to see if you agree with  
2 me or not, that this seems to be suggesting something  
3 different, that whatever this -- it seems to me to  
4 suggest that whatever this guideline might be, whatever  
5 form it might take, these words say to me where you  
6 have a guideline and you don't deviate from it, then  
7 you don't have to do -- pardon me, in that case the  
8 acceptable level of treatment must -- it is not  
9 necessary to do it on a site-specific basis?

10 A. I'm afraid I don't have a clear  
11 understanding of this text.

12 Q. All right, thank you. You gave  
13 evidence yesterday, you were asked how realistic is it  
14 to predict the effects on fish habitat and fish  
15 population you said it was realistic and necessary. Do  
16 you remember giving that evidence?

17 A. I'm sorry, could you repeat that for  
18 me.

19 Q. You were asked how realistic is it to  
20 predict effects on fish habitat and fish populations.  
21 The question was asked in the context or during the  
22 discussion of the fisheries policy, the federal  
23 efficiencies policy and your answer was, you thought it  
24 was both realistic and necessary.

25 A. Yes.



1                   Q. All right. Mr. Martel then asked  
2                   you: Well, if it can be done what's the cost and he  
3                   made some reference to some earlier evidence that had  
4                   been put in about the costs of certain monitoring and  
5                   you made the comment, you said, we only do the ones  
6                   which have the potential for impact?

7                   A. That's correct.

8                   Q. I didn't understand what you meant by  
9                   that. I was hoping you could explain it.

10                  A. Well, in addressing what I was  
11                  referring to here was it isn't necessary to go through  
12                  and do a comprehensive or inventory analysis or even  
13                  assess impacts on all the park systems in the area of  
14                  the undertaking. The only ones that would require any  
15                  attention would be those that have the potential to be  
16                  impacted.

17                  Q. All right. So you are saying if  
18                  there were 80,000 lakes in the area of the undertaking  
19                  you wouldn't have to go out and inventory all 80,000,  
20                  you would have to go out and inventory the ones which  
21                  were going to be in the area of the operation for the  
22                  next five years?

23                  A. Well, you would address impacts on  
24                  those, whether it required an inventory or not is  
25                  questionable.

1 Q. All right, that is helpful.

2 Now, I believe you have indicated -- well, do you agree  
3 that doing population estimates is difficult?

4 A. It takes a considerable effort.

5 Q. Would you agree that management  
6 agencies who have responsible for the aquatic  
7 environment don't regularly do population monitoring?

8 A. They don't make population estimates?

9 Q. Yes.

10 A. That's correct.

11 Q. And the reason they don't do it is  
12 because it is so difficult?

13 A. There's a considerable level of  
14 effort that is applied.

15 Q. Right. If you had a lake, say a  
16 hundred hectare lake, how many years would it normally  
17 take to do an assessment which would result in a  
18 quantitative estimate of the population?

19 A. If you wanted to actually get a very  
20 well defined prediction of the estimat or --

21 Q. Well, yes, you wanted to find out  
22 whether your prediction --

23 A. The only reason I'm asking is because  
24 there are different levels that population estimates  
25 are made at.

1 Q. All right.

2 A. It depends how definitive you want  
3 that estimate to be.

4 Q. Can you describe for me the different  
5 levels at which you could do that--

6 A. Yes.

7 Q. --or which you could choose?

8 A. Variety of methods. Tag return, you  
9 can tag fish and get returns on them, get an estimate  
10 that way.

11 I'm sorry, the approach here is to -- you  
12 know that there are certain -- that there is a number,  
13 an unknown number of fish in the particular lake. If  
14 you can collect some of those fish, tag those fish, let  
15 them redistribute throughout the lake and then again go  
16 back to the lake and collect again based on the numbers  
17 that you collected, the numbers that you tagged by the  
18 numbers that you collected you can come up with an  
19 estimate. Confidence limits will reflect how  
20 successful your sampling is.

21 You can in a very cursory sense come up  
22 with estimates of populations based on production  
23 levels. You can estimate populations based on  
24 following the population and the catch that you are  
25 getting, like a commercial catch. There are ways and

1 means of using that particular data.

2 So there is a variety of methods that  
3 reflect certain efforts.

4 Q. Are you suggesting to the Board that  
5 any one of the methods that you have referred to be the  
6 method that should be adopted for predicting fish  
7 populations in Ontario?

8 A. No, not at all. I have been saying  
9 that you have to assess you needs on a case-by-case  
10 basis. There may very well be a need in a particular  
11 instance where the lake is identified as a very  
12 sensitive lake and some measure of population is  
13 required, then I guess it would be required in that  
14 particular instance.

15 Q. So this prediction of populations and  
16 then monitoring them is not something which would apply  
17 on a lake-by-lake basis as they are counted in timber  
18 management?

19 A. It wouldn't apply on an every lake  
20 basis. It would have to be considered on a  
21 lake-by-lake basis.

22 Q. All right. Are you --

23 MADAM CHAIR: Excuse me. Sorry, Mr.  
24 Freidin.

25 Mr. Krochak, what would be the reason for

1       wanting to know fish populations, to know the number of  
2       fish in a lake?

3               For example, if you have -- let's say as  
4       a measure of sensitivity you have a particularly  
5       popular sport fishing lake and it is important to  
6       always have a large population so they can be harvested  
7       and you might decide to do this regularly and to, you  
8       know, stock the lake so you would have that resource,  
9       but in many waterbodies aren't you more concerned just  
10      about the protection of the fish habitat, that there is  
11      only so much you would want to do with respect to the  
12      fish population themselves?

13              THE WITNESS: That's right. It would be  
14      very nice if in the timber management context you could  
15      very easily identify -- you have got timber management  
16      activities, you then monitor the populations to see  
17      what the actual numbers were, but that isn't the case  
18      and as nice as it would be it's not an easy information  
19      to get at.

20              MADAM CHAIR: Why would it be nice? Why  
21      do you want to know the number of fish in a lake if you  
22      can find some way of having confidence that the  
23      fisheries habitat are being protected?

24              THE WITNESS: It is a reflection on the  
25      fish habitat is what it is. Everything is reflection



1 on that habitat. The habitat is needed, but what is  
2 realized from it is the population of fish. So it's  
3 kind of at the end of the line. So that would be very  
4 nice to know.

5 MADAM CHAIR: But other things affect  
6 that fish population the beside timber management?

7 THE WITNESS: That's exactly right.  
8 These variables obviously would have to be considered,  
9 but I think -- well, as nice as it would be having a  
10 reflection on what production is happening in the lake,  
11 whether production is going up or whether production is  
12 going down is something that is worthwhile knowing  
13 without actually having to go to the effort of actually  
14 coming up with these particular population estimates.

15 MR. MARTEL: Can I ask a question because  
16 I am having a little bit of a problem.

17 What would you monitor for? Let me back  
18 up for a minute because if we do the adaptive  
19 management approach you are talking about, what would  
20 be the various things you would monitor for?

21 You have set your objectives. Are you  
22 talking primarily about fish habitat when you are  
23 setting objectives or what other objectives are you  
24 trying to establish?

25 THE WITNESS: I guess the point I am

1       trying to make is that there are a variety of  
2       objectives that you can be looking at. You don't  
3       necessarily have to -- you are look at protecting the  
4       aquatic resource.

5                   MR. MARTEL: Right.

6                   THE WITNESS: The objective in protecting  
7       that resource may be maintaining or assuring that  
8       suspended solids don't go above a particular  
9       predescribed objective and that may be all the  
10      information that you want to monitor and follow in this  
11      particular situation.

12                   It may very well be that the greatest  
13      impact in doing your analysis may be a reflection on  
14      temperature, that it could wipe out a spawn. Well,  
15      that then -- it would be that particular temperature  
16      objective that you would establish.

17                   MR. MARTEL: But you would be aiming at  
18      trying not just to look at the temperature or not look  
19      just at the sedimentation, but the final effects of  
20      those; would you not?

21                   THE WITNESS: Yes, you are looking at  
22      protecting the aquatic resource, particularly  
23      fisheries.

24                   MR. MARTEL: Which then takes it the next  
25      step, though, that you have to know -- the only way you

1 can determine if you are successful is by what means  
2 in protecting the supply of you would have to be trying  
3 to find out what is still there.

4 THE WITNESS: If you weren't satisfied  
5 that you had protected the resource through a  
6 particular objective, setting a particular objective,  
7 yes, you would have to go past that to see that it  
8 actually was in place, but you would base your  
9 objectives on the sensitivity of the particular system.

10 If the systematic -- I think of one that  
11 I worked on which related to a power plant and  
12 temperature was the only key factor here because lake  
13 whitefish spawn in the fall, their eggs incubate over  
14 the winter months and the hatch occurs in late winter,  
15 early spring, March/April depending on where you are.

16 A one degree change in temperature for  
17 those incubating eggs can result in a very serious lost  
18 to the population. They are very sensitive to  
19 temperature.

20 So the objective in this particular case  
21 would be to ensure that if there was potential for --  
22 as it was for this particular client, to result in a  
23 change in temperature of greater than one degree or the  
24 objective was that they couldn't make that -- there  
25 couldn't be that particular impact, they could not

1 change the temperature to that degree, so they would  
2 have to design their operation to suit that particular  
3 operation.

4 So what you would monitor there is -- I  
5 mean, you can monitor the fish population and see how  
6 successful it was and so on and so forth, but the basic  
7 element that you need to monitor is temperature.

8 You can, again in this particular  
9 example, not go out and do a population estimate for  
10 the effort that it takes, but this lake also has  
11 commercial fishing. Also check the commercial fish  
12 records and see whether there are implications to the  
13 population there that may you be able to relate back to  
14 the temperature regimes or you may not depending on the  
15 variables that you have to assess.

16 So it isn't always necessary and I'm  
17 certainly not suggesting that you have to do a  
18 definitive study and monitor definitively to know what's  
19 going on. You take your key indicators out of the  
20 environment and those key indicators are what you have  
21 established as your objectives and monitor those.

22 MR. FREIDIN: Q. Just one follow-up  
23 question. I take it then what you are saying is that  
24 if you are going to have operations and they are going  
25 to be in the vicinity of a number of trout lakes, you



1 are not suggesting that you have to go out and make  
2 these predictions and monitor every trout lake? The  
3 population I am talking about.

4 A. Yes, that's correct.

5 Q. Okay. Let's move on to another area.  
6 Again, I am going back to the evidence you gave about  
7 the Red Lake Timber Management Plan, and when you  
8 referred to those areas of concern -- I have got  
9 Exhibit 2077 before me, but I think -- let's look at  
10 that one. Do you have that?

11 A. I have two of them. Which one are  
12 you referring to?

13 Q. Exhibit 2077 which is in relation to  
14 areas of concern No. 2 and I am interested in the last  
15 page, page 8. It is in reference to the compliance  
16 program.

17 A. Yes.

18 Q. And you, I understand, had some  
19 concern about that because it was your understanding  
20 based on those words alone that the compliance  
21 monitoring basically just went out there and looked at  
22 whether the prescription had been followed, but didn't  
23 have anything in it at all regarding possible effects  
24 of the operation on the aquatic environment?

25 A. That's correct. There is no



1 indication to me here that there is any reflection on  
2 impacts on aquatic...

3 Q. It was your evidence, I believe, was  
4 it not, that if in fact there was some requirement that  
5 you make observations or record observations in  
6 relation to, say, sedimentation or something in a  
7 stream that that would be important because that  
8 would -- that was what was missing here? That's the  
9 one thing that was missing here from your point of  
10 view?

11 A. I'm not sure I'm following your  
12 logic. I'm sorry.

13 Q. All right. What was missing? There  
14 is nothing there about the -- no requirement to observe  
15 whether there was any adverse effect on the aquatic  
16 environment, is that what's missing from these?

17 A. Yes. My concern was we are dealing  
18 with an area of concern that relates to aquatic  
19 systems.

20 Q. Right.

21 A. The monitoring related to that was no  
22 reflection on the aquatic system at all. It was a  
23 reflection on, as I read it, on compliance with, you  
24 know, the 30-metre buffer strip.

25 Q. Am I correct that your concern about

1 that was that if you just looked at whether the buffer  
2 was put there and that was it that you wouldn't have  
3 obtained any information as to whether the buffer  
4 served its intended purpose or not?

5 A. Whether it was adequate protection or  
6 not, that's right.

7 Q. Okay. Now, do you have a copy of the  
8 Ministry of Natural Resources' draft terms and  
9 conditions dated January the 6th, 1992, Exhibit 2037?

10 A. I have got 2032, January 6th, 1992.

11 Q. January 6, 1992.

12 A. Yes.

13 Q. I'm sorry, did I say another year?

14 A. No, I thought you said 2037.

15 Q. 2032, I'm sorry. Could you turn,  
16 please, to draft term and condition 64 at page 21.

17 A. Yes, I have that.

18 Q. Now, under the heading of Monitoring  
19 and Reporting, under 64(b), it states that:

20 "At the forest management unit level when  
21 monitoring timber management activities  
22 MNR shall record any undesirable  
23 conditions which are observed in the  
24 areas of operations and which appear to  
25 be related to timber management

1 activities."

2 Now, if someone therefore observed  
3 sediment in the stream next to a reserve and made a  
4 record of it, would that be the sort of thing that you  
5 are looking for?

6 A. No, it isn't. I mean, that would be  
7 useful information. I think you would want to solicit  
8 as much of that information as you can.

9 Q. Okay.

10 A. But what I am referring to is, in  
11 terms of monitoring, establishing objectives and  
12 determining whether you have met those objectives or  
13 not. I'm referring to quantifiable objectives.

14 Q. Okay. Would you agree that the  
15 requirement in 64(b) along with the documentation  
16 requirements in 64(c), although it doesn't meet all of  
17 the requirements that you have set out, it is more than  
18 what is set out in the area of concern documentation in  
19 the timber management plan for the Red Lake Crown?

20 In other words, the Red Lake Crown says  
21 -- if you read the two together?

22 A. Yes. What I see it reading is that  
23 if some undesirable conditions are observed.

24 Now, in the context of science, observed,  
25 who is observing it, how are they observing it, when

1 did they observe it, this is where I have a problem.

2 So I'm not -- it is good that this information would be  
3 collected. I'm not sure it is much better than what  
4 this states here.

5 Q. Now, you said who observed it, how  
6 they observed it. What else did you say?

7 A. When they observe it.

8 Q. Well, in terms of implementing the  
9 local effects monitoring program which you say should  
10 be done on a case-by-case basis, who do you suggest  
11 observes it and how do you suggest they observe it and  
12 what qualifications do you suggest they should have to  
13 observe it?

14 A. To observe undesirable conditions as  
15 presented here?

16 Q. Yes.

17 A. I can't respond to that. It just  
18 says if undesirable conditions are observed.

19 Q. No, I'm sorry. I am not talking  
20 about this anymore. You are saying you would be  
21 concerned about who would observe it, how they would  
22 observe it, right?

23 A. Yes.

24 Q. I am saying, well if you are  
25 concerned about who would observe this and how they

1 would observe it in this context, aren't you equally  
2 concerned about, in the context of a local effects  
3 monitoring program you support, wouldn't you be equally  
4 concerned about who observes it, how they observe it,  
5 particularly having regard to your requirement that the  
6 observations and the predictions be quantitative in  
7 nature?

8 A. It's the methodology that's important  
9 and that -- what you are looking at is a  
10 quantitative -- monitoring quantitatively.

11 So if it is simply collecting a water  
12 sample at a particular time and place, with appropriate  
13 direction a summer student or a Ph.D or a local Cat  
14 operator could make those collections as long as the  
15 appropriate methodology is followed.

16 That's really what I'm referring to when  
17 I say who, why, when and where. I want to know within  
18 the context of science that the observation has some  
19 sort of meaning.

20 Q. All right. What about a quantitative  
21 habitat assessment? I am not talking now about going  
22 out and dropping something in the water and taking a  
23 sample and having someone analyse it. Let's talk about  
24 somebody who is going to make an assessment, a  
25 quantitative assessment about the effect on habitat.



1 A. Yes.

2 Q. Are you just saying that develop the  
3 methodology and send a summer student out to do that  
4 too?

5 A. I notice that MNR trains summer  
6 students to do that particular --

7 Q. Answer the question, please.

8 MR. O'LEARY: He just did.

9 MR. FREIDIN: Q. Are you suggesting that  
10 you just let a summer student go out and collect that  
11 kind of information?

12 A. You would let -- you would not send a  
13 person out to collect it unless you knew that they  
14 would be following the appropriate methodology that was  
15 required.

16 Now, that appropriate methodology, if it  
17 can be collected by a summer student that would be  
18 fine. If he can make the appropriate observations that  
19 would be fine.

20 Q. You made reference in your evidence  
21 yesterday to conservation authorities looking at  
22 watershed level issues?

23 A. Yes. I made reference to the fact  
24 that they deal at a watershed level.

25 Q. All right. I think you indicate in

1 your own witness statement on page 20 in answer 38, at  
2 the end of the first paragraph that:

3 "These initiatives regarding watershed  
4 matters are primarily in southern  
5 Ontario."

6 A. I'm sorry, I am having -- yes, here  
7 it is. I understand there are conservation  
8 authorities. I'm not familiar with where they are, how  
9 many there are, this type of thing.

10 Q. But you said these are primarily in  
11 southern Ontario, these initiatives, in your witness  
12 statement?

13 A. I am familiar with one in southern  
14 Ontario.

15 Q. Right. Southern Ontario is a pretty  
16 populated area?

17 A. Yes.

18 Q. Can we agree that in southern Ontario  
19 that you are going to have potential adverse effects on  
20 the watershed as a result of storm water run-off from  
21 urban areas?

22 A. Yes.

23 Q. You are going to have intensive  
24 agriculture which is going to cause, again, run-off and  
25 effect on the watershed?

1 A. Yes.

2 Q. That you have fairly intensive land  
3 use over the entire watershed when you are talking  
4 about southern Ontario?

5 A. You can have, yes.

6 Q. And that those three factors are  
7 relatively absent in the area where timber management  
8 activities occur, can we agree on that?

9 A. For the most part I would expect  
10 that's true.

11 Q. Thank you. In your evidence  
12 regarding cumulative impacts and watershed kinds of  
13 effects you refer in your evidence to the concern  
14 regarding erosion and sedimentation; is that correct?

15 A. Do you want to point to where you are  
16 referring specifically? Are you referring to something  
17 specific?

18 Q. Nothing specific. When you gave your  
19 evidence when you were talking about watershed effects,  
20 concern about watershed effects, one of the items that  
21 you spent some time on was erosion and sedimentation  
22 effects?

23 A. Yes.

24 Q. Do you have a copy of Exhibit 812.

25 A. Yes, I do.

1 Q. The reason I want to just spend a few  
2 moments on that, Mr. Krochak, was because of your  
3 answer to interrogatory 12 of the Ministry of Natural  
4 Resources which you will find at page 12 of Exhibit  
5 2075.

6 In that interrogatory we asked --

7 MR. O'LEARY: Sorry, which one was that?

8 MR. FREIDIN: No. 12 on page 12 using the  
9 numbers at the bottom of the page.

10 Q. Do you have that, Mr. Krochak?

11 A. I'm sorry, 12 on page 12, yes, I have  
12 that.

13 Q. Okay. The question arose out of a  
14 comment in the witness statement that:

15 "There are often residual impacts that  
16 flow down and accumulate throughout the  
17 watershed system."

18 Question (a) was:

19 "What evidence is there that significant  
20 cumulative impacts have occurred as a  
21 result of timber management activities in  
22 areas with conditions, climate,  
23 topography, soils, logging practices  
24 comparable to those in Ontario."

25 Such impacts have occurred in some

1 cases.

2 Were protection measure similar to those  
3 used in Ontario..." and you referred the  
4 Ministry to Exhibit 812. So that's why I went to 812.

5 Just while we have that, can we agree if  
6 we look at the left-hand column on page one of 812 that  
7 this was a report which will dealt with this issue in  
8 region 5 which is in California?

9 A. It makes reference to the mid 80s  
10 where there was some legal challenge to the fact that  
11 cumulative effects analysis wasn't completed and that  
12 was in California.

13 Q. All right. Was, in fact, the effects  
14 which gave rise to those cases and the situation  
15 described in this article ones which existed in region  
16 5?

17 A. I'm sorry, region 5 is?

18 Q. California department.

19 A. Yes, I have it here.

20 Q. It is in the bottom left-hand corner.

21 A. Yes, I see that here.

22 Q. Are you able to answer that question?

23 A. Yes. I said yes.

24 Q. I'm sorry. If we go over to the  
25 right-hand column on the first page of this exhibit it



1 talks about -- last paragraph near the bottom, it talks  
2 about changes in or near streams, it talks about  
3 construction of logging road compacting bare soil, it  
4 talks about, on the next page, page 268, harvesting and  
5 site preparation exposing bare mineral soils and then  
6 it says:

7 "If these effects..." I assume they are  
8 talking about bare and mineral soil,

9 "...combined with increased peak flows  
10 because of timber harvest which reduces  
11 transpiration during heavy rain or snow  
12 melt mass wasting, channel erosion...can  
13 accelerate beyond natural levels."

14 Do I take it that what the article is  
15 concerned about is these factors such as heavy rain  
16 will occur in circumstances where you have got mineral  
17 soil exposure?

18 A. This article brings forward a number  
19 of -- it talks about cumulative effects analysis and in  
20 its discussion of those analysis brings forward several  
21 examples. This would be one of them.

22 Q. All right. Could you turn to page  
23 270. In the left-hand column, it says:

24 "The Forest Service Region 5 methodology  
25 also went through extensive peer review

1 and revision."

2 It goes in that whole left-land column,  
3 would you agree, it describes the steps which were  
4 followed in California including the very first one  
5 being the calculation of a natural sensitivity index of  
6 the given watershed? Do you agree with that?

7 A. Yes, I see that's what they did.

8 Q. And if we go down to the third  
9 paragraph on that page it says:

10 "We used various weighting schemes to  
11 tabulate the natural sensitivity index  
12 and the land disturbance history."

13 A. I see that.

14 Q. All right. Then it talks about:

15 "For the sensitivity index we summed up a  
16 number of things..." and then it says  
17 going down about five or six lines right in the middle,  
18 it says:

19 "Before we added in the acres..."

20 A. Yes.

21 Q. It says:

22 "Before we added in the acres of active  
23 landslides and debris torrents we  
24 multiplied them by a weighting factor of  
25 eight."

1                   Now, I understand what landslides are,  
2       but what are debris torrents that they are considering  
3       out there in California?

4                   A. As a fisheries biologist I am not  
5       sure I have a definition for a debris torrent.

6                   Q. Do you have any understanding as to  
7       what a debris torrent is?

8                   A. I could probably hazard a guess.

9                   Q. There is no use --

10                  A. Torrent debris, you know --

11                  Q. There is no use hazarding a guess.

12       Thank you very much.

13                  You referred in your -- well, first of  
14       all, will you turn to Tab 6 of the witness statement,  
15       please. That's where we find this discussion of the  
16       Elk River project. Would you turn, please, to page 8  
17       of this document. I am looking at the numbers in the  
18       top right-hand corner.

19                  MADAM CHAIR: Where are we, Mr. Freidin?

20                  MR. FREIDIN: Page 8.

21                  MADAM CHAIR: Of the witness statement?

22                  MR. FREIDIN: No, Tab 6 of the witness  
23       statement.

24                  MADAM CHAIR: I don't have Tab 6.

25                  THE WITNESS: Tab 16 I think it is.

1 MR. FREIDIN: Tab 16.

2 MADAM CHAIR: Tab 16. Thank you.

3 MR. FREIDIN: I thought that was a  
4 misprint when it said 16 because it only had seven  
5 tabs.

6 MR. O'LEARY: It is part of the three R  
7 program, Mr. Freidin.

8 MR. FREIDIN: Q. Now, this is an article  
9 that deals with cumulative watershed impact; is that  
10 correct?

11 A. Yes, it is.

12 Q. And a project in the Elk River basin?

13 A. Yes.

14 Q. If you turn to page 8, in the bottom,  
15 Elk River Basin Watershed Cumulative Effects is the  
16 heading, it says:

17 "In the Elk River high timber values were  
18 combined with valuable salmonid..."

19 How do you pronounce that?

20 MR. HANNA: Salmonid.

21 MR. FREIDIN: "...with valuable salmonid  
22 fisheries in a steep and erodible  
23 landscape."

24 Are you able to -- do you have any cases  
25 to, in fact, dispute the description in that sentence?

1 A. No, not at all.

2 Q. If we go down about six or seven  
3 lines, in the middle of the page in that same  
4 paragraph, it says:

5 "The basin is extremely prone to  
6 landslides and past roading of harvest  
7 activities have impacted a few streams.  
8 In general, however, impacts have not  
9 occurred on the most productive areas of  
10 the basin."

11 Do you have any reason or basis to  
12 dispute the statement that the basin is extremely prone  
13 to landslides?

14 A. No, that's the opinion of the author  
15 there.

16 MR. FREIDIN: Just one moment.

17 Q. If you turn to page 9 under Location,  
18 it says:

19 "Although the upper Elk is typified by  
20 steep and narrow streams with high  
21 stream power and bedload transport  
22 capabilities a number of wide, low  
23 gradient valley floors exist in  
24 each tributary which are likely bedload  
25 stored sites. The Reid's PMW study found



1                   that such areas were also sites of  
2                   highest fisheries productivity and  
3                   diversity and that such areas where the  
4                   most sensitive to excess bedload  
5                   aggredation impacts."

6                   Could you confirm for me -- the way I  
7           read that is they are saying that the streams which are  
8           sort of on the flat in the bottom of the valleys are,  
9           in fact, the areas in this particular case which are  
10          most sensitive because the sedimentation which enters  
11          the streams up on the steep and into narrow streams  
12          gets carried down into those areas. Is that sort of --

13                   A. That appears to be his  
14          interpretation.

15                   Q. Thank you.

16                   MR. FREIDIN: It's almost twelve o'clock,  
17          Madam Chair. I am probably going to be another half an  
18          hour or so. Half an hour or maybe 45 minutes.

19                   MADAM CHAIR: One moment.

20          ---Discussion off the record

21                   MR. FREIDIN: Actually, I may be only  
22          five minutes depending on the answer I get to my next  
23          question. How is that?

24                   MADAM CHAIR: That's even better, Mr.  
25          Freidin. Ask that question.

1 MR. FREIDIN: That just shows you the  
2 pressure is on you.

3 Q. You indicated in the answer to the  
4 OFIA interrogatory No. 7.

5 MADAM CHAIR: Page 4.

6 MR. FREIDIN: Q. Page 4. The question  
7 was:

8 "What specific watershed scale does the  
9 witness believe should be used to prepare  
10 a long-term planning forecast of timber  
11 management activities?"

12 And you said:

13 "The specific watershed scale must be  
14 determine on a site-by-site basis.

15 Second or third order watersheds might be  
16 a good level to start initially, but this  
17 will depending on local circumstances."

18 Now, in the area of the undertaking,  
19 let's take northwestern Ontario which I think you  
20 indicated is maybe somewhat similar to Saskatchewan in  
21 terms of the number of lakes and things, are you able  
22 to estimate how large a secondary watershed would be?  
23 I am just looking for a ballpark figure.

24 A. It would depend on the watershed, I  
25 guess.

1 Q. Okay.

2 MR. FREIDIN: This isn't the answer I was  
3 looking for, so I will be another half an hour.

4 THE WITNESS: I think one thing, the  
5 answer to this question, is I also say it has -- I am  
6 making a suggestion of a second or third order  
7 watershed, but I also say that it has to relate to the  
8 watershed configuration.

9 MR. FREIDIN: Q. What does that mean?

10 A. Well, it has to be manageable. If  
11 the watershed configuration is unwieldy to deal in -- I  
12 mean, the application of common sense has to prevail.

13 Q. Is there a size that you have in your  
14 mind beyond which you say it becomes unwieldy?

15 A. No, I don't have a specific size.  
16 Obviously, it would depend on the location. Some  
17 watersheds are very well defined and easy to monitor.  
18 We have other watersheds that move across provincial  
19 boundaries.

20 Q. The reason I was asking the question  
21 was that there is a suggestion being made that there be  
22 predictions and monitoring on a watershed basis. The  
23 size of the watersheds will affect the number of  
24 watersheds that you have to monitor, correct?

25 A. Yes.

1 Q. So I am trying to get a handle on  
2 whether you can provide any assistance as to the number  
3 of watersheds we are talking about. I just thought  
4 size would be a good way of getting at that.

5 A. Within a watershed you can break it  
6 down into subwatersheds and catchment areas and so on  
7 and so forth. This is really what I refer to, it has  
8 to relate to the configuration of that particular  
9 watershed.

10 Q. The diagram up there, Exhibit 2081,  
11 does that in any way tell us what a secondary -- second  
12 order watershed is?

13 A. Well, second order -- if I can move  
14 to the map. Second order would be down at the bottom.  
15 No, actually it isn't. No, it doesn't.

16 Q. It doesn't. I have prepared a little  
17 map that I wanted to give to you. Maybe you can look  
18 at it over the lunch break.

19 I will give everyone else a copy, but  
20 really what I have done on this is I have indicated in  
21 red streams and a lake and have attempted in blue to  
22 identify the watershed for each stream and what I would  
23 like to know is whether in fact that area in blue  
24 depicts roughly a second order watershed. All right?

25 There is a scale bar noted sort of down

1 the left-hand there. This map is 1:50,000 and a little  
2 box says one square kilometre.

3 A. Right.

4 MR. FREIDIN: I will just leave one copy  
5 with the Board at the moment. Maybe we can mark --  
6 well, let's see what he says first.

7 MADAM CHAIR: Do you want this to be an  
8 exhibit, Mr. Freidin?

9 MR. FREIDIN: Sure.

10 MADAM CHAIR: This will be Exhibit 2083,  
11 and can you describe it, Mr. Freidin?

12 MR. FREIDIN: I think it will be a  
13 topographic map showing a second order watershed. At  
14 least that's what I think it shows.

15 MR. O'LEARY: I was going to ostensibly  
16 showing it.

17 MR. FREIDIN: Yes. I want the witness to  
18 confirm whether that is an accurate description.

19 Once we deal with that particular  
20 question, Madam Chair, I think I have only got one  
21 other question. I don't know whether you want to...

22 THE WITNESS: I think from appearances  
23 here it does appear to be a second order watershed.

24 ---EXHIBIT NO. 2083: Topographic map showing a second  
25 order watershed.



1 MR. FREIDIN: Q. And are you able to  
2 estimate the size of that watershed?

3 A. Well, it appears, based on the scale,  
4 it is about an order of two square kilometres.

5 Q. Which converted to hectares would be  
6 200 hectares?

7 A. I don't know.

8 Q. Okay. My understanding is that's  
9 what it is.

10 A. If I would have brought my conversion  
11 calculator I could have confirmed that.

12 Q. Do you have it with you?

13 A. No, I said if I had brought it.

14 Q. Okay. So what that mean then if you  
15 were going to have to do watershed analysis on  
16 secondary watersheds in areas which were similar to the  
17 area depicted on that topographic map, you would have  
18 to make the prediction and do the monitoring on 200  
19 hectares areas, if we were to follow the advice set out  
20 in your answer to interrogatory 7 of the industry?

21 A. Yes, if you were to do cumulative  
22 watersheds effects on this particular watershed.

23 MADAM CHAIR: Lunch time, Mr. Freidin?

24 MR. FREIDIN: Want me to ask one more  
25 question -- oh, we have to come back for re-examination

1        anyway.    Sure.

2                    MADAM CHAIR:    Yes, we do.

3                    MR. O'LEARY:    If you are going to finish  
4        up...

5                    MADAM CHAIR:    That would help you, Mr.  
6        O'Leary?

7                    MR. O'LEARY:    It would.

8                    MR. FREIDIN:    Q.    My last question or  
9        series of questions is your evidence about - well, it  
10       may be one question - lakes smaller than 10 hectares.

11                   A.    Yes.

12                   Q.    And if we turn to the -- pardon me,  
13       OFAH terms and conditions 180 and 181 which you will  
14       find at page 31 in Exhibit 1637, you indicate -- it  
15       indicates in 181 that:

16                   "Lakes less than 10 hectares in an area  
17                   with significant fishery resources shall  
18                   be afforded the same level of protection  
19                   as larger waterbodies.

20                   The rationale indicates that:

21                   "Lakes less than 10 hectares in area  
22                   have no protection under the guidelines  
23                   or policy."

24                   Now, Exhibit 304 was the policy.    Do you  
25       have a copy of that?

1 A. Yes, I do.

2 Q. Can we turn to page No. 2. This is  
3 the policy regarding use of the guideline regarding  
4 protection of fish habitat, and on the second page  
5 under the heading Application, it says:

6 "The guideline shall be applied to the  
7 following waters..." and under (c) it  
8 says:

9 "Lake which possess may possess  
10 significant fisheries value."

11 If you look at that whole paragraph, No.  
12 1, would you not agree that it indicates that a lake  
13 which is than less than 10 hectares which has  
14 significant fishery values would, in fact, bring the  
15 guidelines into operation?

16 A. If that's correct, then I guess it  
17 would, yes.

18 MR. FREIDIN: I have to figure out  
19 whether I have any questions left. (indicating)

20 MR. HANNA: I wouldn't show that to  
21 anyone.

22 MR. FREIDIN: It is amazing how I do  
23 this. Those are my questions. Thank you very much.

24 MADAM CHAIR: Thank you, Mr. Freidin.  
25 We will come back to hear your

1 re-examination, Mr. O'Leary.

2 MR. O'LEARY: Immediately after lunch.

3 MADAM CHAIR: Then we will go from that  
4 into the scoping session for Panel 7.

5 Mr. Lindgren will not be able to make it  
6 in any event. So we will go on without him and we will  
7 start this afternoon at two o'clock rather than one  
8 1:30 unless there are any objections.

9 ---Recess at 12:15 p.m.

10 ---On resuming at 2:05 p.m.

11 MADAM CHAIR: Please be seated.

12 Mr. O'Leary?

13 MR. O'LEARY: Thank you, Madam Chair.

14 You will be pleased to know we pared it  
15 down to a couple of questions. So we will be moving on  
16 to the scoping quickly.

17 RE-DIRECT EXAMINATION BY MR. O'LEARY:

18 Q. Mr. Krochak, could you please refer  
19 to 2083 which is the map that Mr. Freidin produced. I  
20 have got this thing about maps and thought we would  
21 start there.

22 He has highlighted for you in the centre  
23 of that exhibit a particular area which you spoke to.  
24 Can I ask you, first of all, if there was any timber  
25 activity, harvesting, renewal, any sort of

1 timber-related activity outside the outside perimeter  
2 of that area that he has drawn on the map would it be  
3 necessary to perform monitoring within those two -- I  
4 think they are referred to as secondary watersheds?

5 MR. FREIDIN: One second order watershed.

6 MR. O'LEARY: Second order watershed.

7 WITNESS: If there was harvesting  
8 outside?

9 MR. O'LEARY: Q. Yes.

10 A. I am having a hard time telling which  
11 is lakes and which is topographic relief, but...

12 Q. We are assuming for the moment that  
13 Mr. Freidin's lines are correct and that identifies the  
14 second order watershed.

15 If there is harvesting outside of that,  
16 is it necessary to conduct monitoring within that  
17 second order watershed?

18 A. No, it wouldn't be.

19 Q. Right.

20 A. It would only be -- you would only  
21 address yourself to the aquatic system that is  
22 potentially impacted.

23 Q. All right. Would that be true in  
24 respect of any other of the watersheds that would be  
25 identified in this map or, for that matter, any timber



1 management plan map where there was no timber harvest  
2 activity within that watershed?

3 A. That's right.

4 Q. All right. Now, what is the  
5 difference between a first order watershed -- perhaps I  
6 could ask you, can you describe, what is a second order  
7 watershed.

8 MR. FREIDIN: I object.

9 MR. O'LEARY: I thought it might help  
10 because he wasn't asked to define it in any fashion or  
11 explain what it is. I don't know whether the Board  
12 is --

13 MR. FREIDIN: He define it. He defined  
14 it by agreeing that what was depicted here was a second  
15 order watershed. I may disagree with the definition he  
16 gives of a second order watershed.

17 MADAM CHAIR: Mr. Freidin, we are going  
18 to set aside your objection for a minute because the  
19 Board has a question to Mr. Krochak about definitions  
20 of watersheds and you will be given an opportunity to  
21 follow-up that up if you want.

22 Mr. Krochak, we have heard evidence  
23 before us that defining what a watershed is is not as  
24 simple as what Mr. Freidin has done or someone with  
25 respect to drawing a pen around some lines on a

1 topographic map. In fact, we might learn differently  
2 in reply, but so far I don't think the Ministry of the  
3 Environment and the Ministry of Natural Resources has  
4 even been able come up what a completely acceptable  
5 definition of headwater streams. There was some  
6 problem with respect to how that would be sorted out.

7 The Board is having difficulty saying  
8 that it would be an easy thing to do watershed analysis  
9 at its first very first step and that is, defining what  
10 the watershed is. It seems to us that that's a pretty  
11 tricky proposition. Do you agree or disagree with  
12 that?

13 THE WITNESS: Watersheds are defined  
14 geographically or physiographically and I am not sure  
15 what the problem in identifying watershed is, quite  
16 frankly.

17 MADAM CHAIR: Well, we have had various  
18 diagrams such as these put in front of us where they  
19 have traced various lakes and streams and in northern  
20 Ontario of course there are very tightly connected and  
21 there are all kinds of offshoots and so forth.

22 The evidence before us is not that it is  
23 a simple matter to do, to sit down and decide that's a  
24 self-contained watershed unit. That's not what we have  
25 been told me so far. Are you telling it is simple to

1 map --

2 THE WITNESS: I am saying that's how you  
3 define the watershed. I can appreciate in some areas  
4 geographically it is difficult to define a watershed.

5 Actually, I guess part of the definition  
6 in terms of watershed is some people refer to areas of  
7 watershed as being catchment areas. They may use  
8 some -- which is a very small, very well defined area  
9 and address those as or term those as subwatersheds or  
10 whatever.

11 MADAM CHAIR: Because, of course, a very  
12 important point when you are sitting down to set out  
13 your harvest area and you are concerned about  
14 protecting fisheries habitat, for example, and you are  
15 concerned about where buffers should go and how large  
16 they should be and other measures of prevention or  
17 mitigation, you would have to be pretty specific about  
18 which waterbodies you are dealing with and how far up  
19 the line to trace their influence on that watershed.

20 THE WITNESS: Yes, and I don't want to  
21 suggest to the Board that it should be a second order  
22 or third order whatever.

23 I think it's important I guess, as I have  
24 been saying, to address it pretty much on a  
25 case-by-case basis and to what is reasonable size

1 watershed that can be handled, but again, in my mind it  
2 reflects potential for impacts. Areas that have no  
3 potential for impact whenever I don't really feel need  
4 to be addressed, but it is a physical description.

5 Again, a lot of times -- like this map is  
6 very difficult to deal with. When I am dealing with  
7 watersheds -- I actually really object to a small map  
8 like this. I like to have a whole large area defined  
9 and put everything into perspective because I'm -- you  
10 know, I can't see the bigger picture here is what I'm  
11 saying.

12 MADAM CHAIR: Do you have any objections,  
13 Mr. Freidin?

14 MR. FREIDIN: No.

15 MADAM CHAIR: Mr. O'Leary?

16 MR. O'LEARY: Q. I realize it is in  
17 black and white and it is more difficult to read as a  
18 result of that. We had trouble over lunch, Mr.  
19 Krochak, trying to identify -- Mr. Hanna and I trying  
20 to differentiate between the streams on this and the  
21 contour lines and it is quite -- we actually put one  
22 together and we got about halfway through it and  
23 realize it was going to take the entire lunch hour  
24 trying to distinguish the two.

25 MR. FREIDIN: Thank you for that

1 evidence.

2 MR. O'LEARY: Q. The question I have for  
3 you is that if you had the original of the map, Mr.  
4 Krochak, and you were asked to determine or to apply  
5 monitoring procedures to the areas identified by Mr.  
6 Freidin, would this map be sufficient?

7 Can you tell me what level of confidence  
8 you would have that you would be able to carry out  
9 those monitoring procedures using the original of this  
10 map and following along the outline that Mr. Freidin  
11 and his staff have put together?

12 MR. FREIDIN: Madam Chair, I don't know  
13 how that arises out of my question. I didn't ask any  
14 questions about monitoring in relation to this. I just  
15 asked if that would indicate an area of a watershed. I  
16 didn't deal with monitoring or how this map would be  
17 use in monitoring or anything.

18 MR. O'LEARY: It somewhat flows out of  
19 your question, Madam Chair. I was trying to clarify  
20 whether or not you could work with these maps.

21 MADAM CHAIR: We will let you ask that  
22 question, Mr. O'Leary.

23 THE WITNESS: You better ask it to me  
24 again.

25 MR. O'LEARY: Q. If you had the original



1 of this map --

2 MR. MARTEL: You can pass.

3 MR. O'LEARY: Sometimes that's  
4 perferable.

5 Q. If you had the original of this map  
6 and you were able to distinguish between the contour  
7 lines and the streams which you are having difficulty  
8 with now because it is all black and white, we don't  
9 have the original, would be able to establish the  
10 outline, assuming Mr. Freidin is correct that is it,  
11 the outline of this second order or of the second order  
12 watersheds?

13 A. Yes. If I can qualify that, when I  
14 am doing something like this I like to have -- to be  
15 able to look at the whole area and from there work down  
16 to the area that I'm working in. So I have a  
17 perspective of what is happening in the watershed.

18 Q. Okay, fair enough. So you would want  
19 the whole sheet is what you are saying?

20 A. That's correct. It may be a whole  
21 sheet, it may be a couple of sheets, you know,  
22 depending...

23 Q. What Mr. Freidin has put in front of  
24 you is two second order watersheds -- one second order  
25 watershed. If you had the original in front of you,

1 would you be able to work with that document and, if  
2 so, what's the level of confidence you would have that  
3 you would be able to apply the monitoring procedures  
4 that you have recommended to the extent that they are  
5 necessary given the sensitivity of that area?

6 A. I'm sorry, I lost your question.

7 Q. All right. If you were asked to  
8 consider and give an opinion as to the confidence you  
9 placed in the monitoring that was going to take place  
10 within this second order watershed which Mr. Freidin  
11 has identified, could you use this map if it was the  
12 original and you can distinguish between the creeks and  
13 the contours as the basis upon which you would identify  
14 that second order watershed so that the monitoring  
15 measures could be carried out?

16 A. No, I wouldn't deal -- I would deal  
17 with a map like this on an extremely first cut type  
18 basis, not much more than that, and then I would look  
19 for a much more detailed map. It says here it is  
20 1:50,000 scale. I would probably be working in the  
21 order of, oh, I don't know, 1:500. Somewhere in that  
22 type of range.

23 Q. All right. Now, in your  
24 evidence-in-chief, and I am just starting there because  
25 that's where Mr. Freidin did, you referred us to

1 several areas of concern being Exhibits 2076 and 2077.

2 Mr. Freidin took you to the latter  
3 portion of both dealing with compliance and  
4 prescription monitoring and you will recall that your  
5 evidence earlier was that there was no indication that  
6 there was any compliance monitoring of the impacts on  
7 aquatic resources identified in either of these  
8 exhibits.

9 Mr. Freidin then took you to the MNR's  
10 terms and and conditions and specifically 64. Do you  
11 have that in front of you, Mr. Krochak?

12 He asked you a question about 64(b) and  
13 whether or not any observations made by the MNR which  
14 are recorded would be of any assistance or value and  
15 said: Well, sure, you know, observations and any  
16 additional data would be useful.

17 You indicated in your response to that,  
18 you qualified it somewhat because I believe the  
19 question was directed towards knowing whether or not  
20 you agreed that this would satisfy your concerns in  
21 respect of the two exhibits that you referred to, and  
22 you qualified it by stating to the effect that what you  
23 are advocating is a methodology for monitoring, and I  
24 would ask you to clarify what you mean by methodology  
25 in respect of monitoring?

1 MR. FREIDIN: That is not the way he  
2 responded to the question. He responded by criticizing  
3 it because he said that is not enough because it is not  
4 quantitative. That's what he said in response to that  
5 question.

6 MR. O'LEARY: There was reference to  
7 methodology as well in your notes.

8 What I am simply asking, Madam Chair, so  
9 you can rule on it if you feel it is appropriate, I am  
10 asking Mr. Krochak to simply clarify what he feels is  
11 lacking because his answer to Mr. Freidin's answer was  
12 qualified in that sure, that will be helpful, that  
13 would be useful but I am looking for something more and  
14 whether it is just quantitative what you are saying -  
15 and I heard the word methodology - and that seems to me  
16 to mean that there is additional items that that answer  
17 could refer to.

18 I am simply asking Mr. Krochak to  
19 identify them if he feels there is anything else in  
20 terms of the types of measurements or the means by  
21 which he would monitor.

22 MADAM CHAIR: The evidence we have from  
23 Mr. Krochak with respect to that discussion was that he  
24 believed this was in no way a replacement of his idea  
25 of local effects monitoring and that you have to have

1 measurable objectives.

2 THE WITNESS: That's correct.

3 MADAM CHAIR: Your question has to do  
4 with how do you obtain measurable objectives or how do  
5 you...

6 MR. O'LEARY: The methodology that would  
7 be used.

8 THE WITNESS: Can I interject here.

9 MR. O'LEARY: Q. I can just make it  
10 simple; in other words, put it all in one quick answer.

11 What would you expect to see in here to  
12 satisfy your concerns as expressed about those two  
13 exhibits.

14 MR. FREIDIN: You can't leave it that  
15 wide open. Let's talk about this exhibit, let's talk  
16 about your concerns. He was asked a question and gave  
17 an answer.

18 If you want to ask what do you mean by  
19 quantitatively, that would be an explanation of the  
20 question, but you can't sort of throw it up and say,  
21 tell me the methodology and tell me all the things you  
22 were talking about. We are starting all over again.

23 MR. O'LEARY: I think I am being most  
24 fair here and the other day when Mr. Freidin said  
25 anything I said he could ask a question after that. I



1 haven't got a problem with that.

2 All I am trying to do is make it as clear  
3 as possible for the Board and certainly it is within  
4 the Board's power to accept evidence whether or not it  
5 is considered proper - I am not admitting that this  
6 isn't improper - but it is not a court of law and you  
7 are entitled to receive that evidence and all we are  
8 trying to clarify -- and it was Mr. Freidin that took  
9 us to this and his suggestion to the witness was:  
10 Look, we are doing and the witness said: No, you are  
11 not, I am not happy, and I am simply trying to ask Mr.  
12 Krochak whether or not he can elaborate on the reasons  
13 why this is insufficient.

14 MADAM CHAIR: I think we have Mr.  
15 Krochak's evidence on this.

16 Is there anything, Mr. Krochak, you  
17 didn't tell the Board about your views of how local  
18 effects monitoring should take place or how measurable  
19 objectives would be set?

20 THE WITNESS: I felt I had covered it.

21 MADAM CHAIR: We have it in your written  
22 order evidence and we are satisfied with what we have  
23 heard orally.

24 MR. O'LEARY: I was uncertain that it was  
25 clear. That's fine.

1                   Q. You will recall, Mr. Krochak, you had  
2 a discussion with Mr. Freidin about your definition --  
3 or the definition of a cookbook approach and whether or  
4 not discretion exercised by a timber management planner  
5 or the author of the prescription would take a  
6 situation outside that definition of cookbook.

7                   Now that you have had that discussion  
8 with Mr. Freidin about definition and in light of that,  
9 do you have an opinion as to the level of discretion  
10 that is apparent that was exercised by the author or  
11 authors of the Red Lake timber management  
12 prescriptions?

13                  In other words, is there any appearance  
14 that discretion was exercised in those documents?

15                  MR. FREIDIN: Madam Chair, he asked  
16 questions about that document. We know what his  
17 evidence is. He gave his evidence about what it did  
18 have and what it didn't have.

19                  You know, I asked him a question about  
20 cookbook to find out whether the existence of  
21 discretion was -- if there was discretion whether it  
22 would not longer be a cookbook and he gave his answer  
23 to that. If you want to ask -- if there is something  
24 confusing about the answer and you want to ask him  
25 about the answer that's fine, but don't take the answer

1 now to go back to another document and say: Now, how  
2 does your answer apply to this other document. We are  
3 starting again. This is not proper re-examination.

4 MR. O'LEARY: Well, there seemed to be  
5 some concern on your part that there was a definition  
6 of cookbook that might have been used inappropriately  
7 or the definition didn't agree with yours, and in light  
8 of the examination I am simply asking Mr. Krochak  
9 whether his opinion remains the same or whether or not  
10 there is the application of your definition and he is  
11 entitled to clarify that in respect of the documents  
12 you put to him.

13 MR. FREIDIN: My objection stands, Madam  
14 Chair.

15 MADAM CHAIR: Mr. O'Leary, you have got  
16 the Board confused now.

17 First of all, Mr. Krochak, you don't have  
18 to worry about not understanding exactly how people are  
19 using cookbook. We have used that term until we are  
20 all quite sick of it at this hearing.

21 What was the gist of your question, Mr.  
22 O'Leary? Repeat it again.

23 MR. O'LEARY: The suggestion was put by  
24 Mr. Freidin that somehow as you increase the amount of  
25 discretion you reduce the strength of the term

1       cookbook, and the question I am simply asking is, in  
2       light of that discussion with Mr. Freidin does the  
3       witness have any view or has his opinion changed in  
4       respect of the Red Lake Timber Management Plan and  
5       particularly the documents that are produced in  
6       evidence.

7                       MR. FREIDIN: He is asking whether the  
8       person who wrote the Red Lake Timber Management Plan  
9       exercised any discretion.

10                      MR. O'LEARY: Well, it is evident from --

11                      MR. FREIDIN: Whether it is evident --  
12       whether he did and whether it is evident or not is  
13       irrelevant -- not irrelevant, it is improper  
14       re-examination.

15                      MADAM CHAIR: I think this is another  
16       line of questioning, Mr. O'Leary.

17                      The evidence we have from Mr. Krochak is  
18       that he is opposed to cookbook solutions, he is opposed  
19       to people following -- professionals being bound by  
20       that sort of an approach. That's what we take from  
21       your evidence, that you believe that is in opposition  
22       to good adaptive management.

23                      THE WITNESS: That's correct.

24                      MADAM CHAIR: I don't know if it will  
25       help the Board a bit to elaborate on that.



1                   MR. O'LEARY: Q. Mr. Freidin also put to  
2     you a suggestion, Mr. Krochak, that the Fish Habitat  
3     Guidelines are designed to meet the worst-case  
4     scenario, specifically that where there is no  
5     information you are to assume the worst-case -- where  
6     there is no information available you are to assume the  
7     worst-case scenario and apply the most restrictive and  
8     protective measures that are contained in the Fish  
9     Habitat Guidelines. Presumably this is to mitigate  
10    against and prevent adverse environmental effects.

11                   I would ask you to see if you could  
12    clarify a question on this point. From an aquatics  
13    species point of view, can you look at the protective  
14    levels in the Fish Habitat Guidelines and advise us of  
15    your level of confidence as to whether these  
16    restrictive or protective measures as they have been  
17    described in the guidelines will, in fact, protect the  
18    aquatic environment?

19                   MR. FREIDIN: I object. He gave his  
20    evidence about those guideline. He said that he was  
21    not convinced that in fact they would provide adequate  
22    protection because they weren't in the adaptive  
23    management approach and, in fact, because they were  
24    based in part on the Trimble and Sartz article.

25                   So he has talked about the level of



1 protection he feels that he would get if you applied  
2 those guidelines. He has given all that evidence. He  
3 is being asked in effect the same question he was asked  
4 in examination in chief.

5 MR. O'LEARY: I don't think it is the  
6 same question, Madam Chair. It arises out of Mr.  
7 Freidin's proposition that the Fish Habitat Guidelines  
8 are going to more or less guarantee the protection of  
9 the aquatic environment.

10 MR. FREIDIN: I never said that.  
11 I never suggested that.

12 MADAM CHAIR: Mr. Krochak's evidence  
13 before the Board is that with respect to primarily  
14 buffer size based on slope as a provision, as what the  
15 fish guidelines will provide with respect to  
16 protection, what you have said to us is that you don't  
17 know if they are adequate. You don't know if that  
18 protection is adequate. It might be or it might not  
19 be. You feel there is no way of measuring the adequacy  
20 of the protection afforded by specific buffer sizes.

21 THE WITNESS: That's correct.

22 MADAM CHAIR: And you have nothing to add  
23 to that?

24 THE WITNESS: I don't believe so.

25 MR. O'LEARY: Q. Can I ask you, are

1       there circumstances where you would know that these  
2       protective measures would be inadequate?

3                   A.   I could guess at circumstances.

4                   Q.   In the Fish Habitat Guidelines, what  
5       do you do if the slope exceeds 60 per cent -- 60  
6       degrees, I should say? 60 per cent.

7                   A.   That's what I was going to guess at.  
8       The guidelines do not address slopes greater than 60  
9       per cent.

10                  Q.   Any others that you can think of?

11                  A.   None offhand.

12                  MR. O'LEARY: That will be it, Madam  
13       Chair, for re-examination.

14                  MADAM CHAIR: Thank you, Mr. O'Leary.

15                  Thank you very much, Mr. Krochak. The  
16       Board appreciates you coming to Toronto and giving your  
17       evidence.

18                  THE WITNESS: Thank you.

19                  MADAM CHAIR: Good luck.

20       ---Witness withdraws.

21                  MADAM CHAIR: Mr. O'Leary.

22                  MR. O'LEARY: Sorry.

23                  MADAM CHAIR: Shall we turn our attention  
24       to your witness statement for Panel No. 7 and the title  
25       is The Role of Habitat Supply Analysis in Timber

1 Management Planning.

2 Your witnesses will be Dr. Rick Page on  
3 the situation in British Columbia, Mr. Jeff Patch from  
4 New Brunswick and we have heard Mr. Patch's name  
5 before, and Dr. Jack Ward Thomas and, of course, we  
6 have heard -- Dr. Thomas has had some advance billing.

7 Will Dr. Thomas have been aware of where  
8 people have talked about his evidence with respect to  
9 what we have heard? Not that there has been long  
10 discussion, but at various times Dr. Thomas' name has  
11 come up, particularly in the evidence of Dr.  
12 Baskerville where he supported various aspects of Dr.  
13 Thomas' work in habitat supply analysis.

14 MR. O'LEARY: Since you are referring to  
15 an era before my time perhaps Mr. Hanna can respond to  
16 that.

17 MADAM CHAIR: Go ahead, Mr. Hanna. It is  
18 not that Dr. Thomas has to be, but I would expect  
19 that --

20 MR. HANNA: What we have done, Madam  
21 Chair, is we have for all the witnesses and Dr. Thomas  
22 in particular gone through the transcripts and tried to  
23 identify certainly where their name has been mentioned  
24 or that sort of thing to bring that to their attention.

25 I think, as I mentioned before, we have

1 got a lot of disgruntled witnesses because there is so  
2 much paper that we are sending. It is just the very  
3 fact that we are sending boxes of paper because there  
4 is just that much in terms of trying to bring them into  
5 the picture as to the volume of material they have to  
6 deal with.

7 We spoke to Dr. Thomas last week I guess  
8 and he is a very committed person, but he is also -- in  
9 several ways, and the last thing I think he said was:  
10 This is the busiest time I have ever had in my life at  
11 the present time. While we are doing everything we can  
12 to keep him informed and we are trying to highlight  
13 things and distill it down to its bare essence for him,  
14 I think anyone who is watching the spotted out  
15 circumstance in the United States can appreciate the  
16 pressure he is under.

17 MADAM CHAIR: Yes, we heard the State of  
18 the Union address a few weeks ago.

19 MR. HANNA: Yes. Well, Dr. Thomas heard  
20 a little bit of it too, and anyways we are doing our  
21 best to give him the information he needs, but I think  
22 I should notify all the parties, and I think I have  
23 already made this invitation to the other parties, if  
24 there is a specific topic that they want dealt with by  
25 Dr. Thomas let us know and we will do our best to bring

1       that to his attention and allow him to be as prepared  
2       as possible.

3                   I hope you appreciate there is just a  
4       tremendous volume of material that we are trying to  
5       send to him and have to deal with.

6                   MADAM CHAIR: We simply make that  
7       comment, Mr. Hanna, because Dr. Thomas is not in quite  
8       the same position as Dean Baskerville, but a similar  
9       one in that we have heard his name at the hearing and  
10      his name has been referred to in the past.

11                  Mr. Martel just whispered to me that the  
12      Board doesn't expect that Dr. Thomas will read all the  
13      places in the transcript where he has been mentioned,  
14      nor will he be able to respond to every question that  
15      all parties might want to put to him.

16                  We just wanted to let you know that we  
17      realize he is in a somewhat different situation than  
18      some of other witnesses we have had here.

19                  MR. HANNA: We are doing our best, Madam  
20      Chair.

21                  MADAM CHAIR: We have some issues to  
22      bring to the attention of these three witness and we  
23      would like them to address these matters in their oral  
24      evidence.

25                  Now, the first one might have to do with



1 giving the witnesses more paper, but I hope it doesn't,  
2 and that is that the Board has heard evidence from the  
3 Ministry of Natural Resources that one of, if not the  
4 major obstacle to implementing habitat supply analysis  
5 for the area of the undertaking is that the FRI, the  
6 forest resource inventory, is not digitized.

7           Although the process of digitizing FRI  
8 data has been undertaken experimentally in various  
9 places, we have a small body of evidence on the  
10 estimated costs of doing this and how long it might  
11 take.

12           We are putting this before you because it  
13 seems to be the position of certainly Dr. Page and Mr.  
14 Patch that you can't implement habitat supply analysis  
15 unless you have digitized forest information of some  
16 description available for the GIS analysis and it seems  
17 that in British Columbia and New Brunswick they either  
18 had such information digitized from the timber supply  
19 side or they spent their first stage of the HSA program  
20 doing that.

21           We want to know if these witnesses before  
22 they appear before us if they appreciate how large a  
23 job that is, as the Board understands it from the  
24 evidence before it, how large a task it would be to  
25 digitize all FRI data in the area of the undertaking

1 and begin implementing it with GIS analysis for the HSA  
2 work.

3 On pages 9, 10 and 12 of his written  
4 evidence, Dr. Thomas refers to such terms as  
5 politically acceptable levels of timber and wildlife  
6 production versus optimum levels. He discusses  
7 adequate public review of the alternatives and on page  
8 12 he refers to a fact that was brought before us by  
9 Mr. Zane Gray to the effect that --

10 MR. FREIDIN: Zane Smith.

11 MADAM CHAIR: Why do I call him Zane  
12 Gray. His name is Zane Gray Smith. Mr. Smith.

13 That many of the individual timber  
14 management products in U.S. national forests end up in  
15 court.

16 What the Board wants to hear from Dr.  
17 Thomas is, let's say in the United States national  
18 forest they have some way that we don't know of to get  
19 the public involved in timber management planning and  
20 to reach a consensus, views about how timber management  
21 planning should be done in their national forests.

22 Obviously, the one aspect that you would  
23 want from that process is conflict resolution and that  
24 doesn't seem to be happening in their national forest  
25 because the timber management projects end up being

1 challenged in any event.

2 What we want to know from Dr. Thomas from  
3 his personal view is how satisfied is he with public  
4 involvement in the timber management/wildlife -- forest  
5 management projects he has been involved with. We want  
6 to know how satisfied he is with public involvement,  
7 how confident he is that the public makes informed  
8 choices and whether he believes he understands how the  
9 public makes these choices. How does Dr. Thomas sit  
10 down and translate what the public wants into what he  
11 does on the ground.

12 MR. FREIDIN: Sorry, that last comment,  
13 was that how he believes the public translates what  
14 they want into what he does on the ground?

15 MADAM CHAIR: Yes. Dr. Thomas seems to  
16 be of the view that publicly owned forests require the  
17 public to have some say in how they are managed and  
18 when Dr. Thomas is managing the forest as a wildlife  
19 biologist, but intimately involved in timber management  
20 planning as they do in the national forest, how does  
21 the public express its choice of what it wants done to  
22 him and is he confident that he is acting on what the  
23 public is telling him.

24 MR. FREIDIN: Okay.

25 MADAM CHAIR: Two other questions for Dr.

1 Thomas. One has to do with his reference to the need  
2 for adequate resources to monitor local effects. We  
3 will give you a page number for that. Page 19,  
4 question 30, Dr. Thomas says:

5 "In my view a major gap of timber  
6 management today is the failure to  
7 provide adequate resources to  
8 effectively and comprehensively monitor  
9 local effects."

10 We would like to hear from Dr. Thomas as  
11 to what he would consider to be adequate resources with  
12 respect to the monitoring of local effects that he is  
13 familiar with or that he has experience with.

14 On page 22, Dr. Thomas states that in his  
15 understanding Ontario does not have the same level of  
16 supervision in the bush that the U.S. Forest Service  
17 does. We would like to know from Dr. Thomas what size  
18 forest area is considered manageable for U.S. foresters  
19 and technicians to supervise on a continual basis.

20 Now, we have a question for Dr. Page and  
21 I think this question was addressed in some  
22 interrogatories. We haven't seen the the response to  
23 the interrogatories so we are going to give you the  
24 question anyway. If the interrogatory responses --

25 MR. O'LEARY: They went out yesterday.



1                   MADAM CHAIR: They did. If they are  
2 covered in this, then we won't expect the witnesses to  
3 address this orally.

4                   Dr. Page on page 30 discusses how you  
5 could expand habitat supply analysis to all areas of  
6 British Columbia. We understand that, in fact, there  
7 are two forest management areas in British Columbia in  
8 in which habitat supply analysis has been put to work.

9                   Dr. Page has said that a period of less  
10 than two years is sufficient to apply the model to any  
11 given area in British Columbia. Does that mean the  
12 entire province or one or two other forest management  
13 areas in British Columbia?

14                   He uses the same estimate of two years as  
15 taking what he thinks would be adequate to implement  
16 habitat supply into analysis in Ontario. Is Dr. Page  
17 really suggesting that habitat supply analysis could be  
18 implemented in 100 forest management units in the area  
19 of the undertaking in two years.

20                   On page 36, Dr. Page believes that the  
21 costs of start-up for the habitat supply analysis  
22 approach in Ontario would be minimal.

23                   Now, from what we can understand on page  
24 36, Dr. Page is separating out the cost of the GIS  
25 system; in other words, we think Dr. Page is saying



1       that habitat supply implementation would be minimal  
2       because you would already have digitized information in  
3       the GIS format. Is this what he is saying and what are  
4       the other initial start-up costs outside of digitized  
5       information in the GIS format.

6                   On page 47, a question for Mr. Patch.

7       Mr. Patch's statement is:

8                   "With respect to direct involvement with  
9                   the public and receiving input from the  
10                  public we have not been involved in a  
11                  structured public consultative process."

12                  Our understanding of the habitat supply  
13       analysis program was that it was for the very reason of  
14       assisting the public in making decisions about what  
15       they wanted of the land base. Could Mr. Patch clarify  
16       for us where in New Brunswick does the public get  
17       involved with respect to habitat supply analysis.

18                  Finally, on page 50, Dr. Page makes this  
19       statement:

20                  "As responsible managers working on  
21                  behalf of the public we have a duty to  
22                  ensure that the desires of the public are  
23                  understood and incorporated in timber  
24                  management plans."

25                  In British Columbia, how are they

1 obtaining the public's view of what the public wants to  
2 see in timber management plans with respect to Dr.  
3 Page's experience.

4 Mr. O'Leary, do you have any questions --  
5 I understand the parties that will be cross-examining  
6 will be the Ministry of Natural Resources and Forests  
7 for Tomorrow. OFIA is a question mark. Mr. Cassidy  
8 leaves the possibility open in his statement of issues  
9 depending on the answers to interrogatories, and I  
10 understand that the Ministry of the Environment will  
11 also not be cross-examining.

12 MR. PASCOE: That's right.

13 MADAM CHAIR: So cross-examination, we  
14 will plan for the Ministry of Natural Resources and  
15 Forests for Tomorrow.

16 Do you have any questions to ask about  
17 their statements of issue?

18 MR. O'LEARY: No.

19 MADAM CHAIR: Mr. Freidin, do you have  
20 any questions about this evidence and how it is going  
21 to be presented?

22 MR. FREIDIN: Just how long he thinks it  
23 will take in-chief.

24 MR. O'LEARY: It will probably take the  
25 full two days.

1                   MR. FREIDIN: Do you have an estimate for  
2       Forests for Tomorrow yet?

3                   MADAM CHAIR: Pardon, Mr. Freidin?

4                   MR. FREIDIN: Do you have an estimate for  
5       Forests for Tomorrow's cross-examination.

6                   MR. PASCOE: I do. It will be less than  
7       two hours.

8                   MR. FREIDIN: I will take up the rest of  
9       the week, Madam Chair.

10                  MADAM CHAIR: Don't be greedy, Mr.  
11       Freidin.

12                  MR. FREIDIN: No, I'm saying I will take  
13       a day. I will try and do it in a day. I will be  
14       finished by the end of the week whether I like it or  
15       not.

16                  MADAM CHAIR: You wouldn't want to make  
17       Mr. Martel miss his plane, would you, Mr. Freidin?

18                  MR. FREIDIN: No, not a chance.

19                  MR. MARTEL: Good thing there is some  
20       form of control.

21                  MR. FREIDIN: Practice constraint  
22       management.

23                  MR. O'LEARY: But you are adapting to the  
24       approach quickly.

25                  MR. FREIDIN: Yes.

1 MADAM CHAIR: All right. We are ready to  
2 begin hearing this evidence on Monday, February the  
3 17th and that will begin at 10:30 a.m.

4 We will be scoping your two final panels,  
5 8 and 9, on the 17 and 19th of February.

6 MR. O'LEARY: One at four o'clock or both  
7 at four o'clock?

8 MR. MARTEL: Both at four o'clock.

9 MR. O'LEARY: Unless you are done sooner  
10 on Wednesday.

11 MADAM CHAIR: We will begin tomorrow  
12 morning at 9 a.m. with with Dr. Quinney.

13 MR. O'LEARY: We have ready to go.

14 MADAM CHAIR: All right. We will see you  
15 then.

16 MR. MARTEL: How long will you be in  
17 direct tomorrow?

18 MR. O'LEARY: Probably the full day.

19 MADAM CHAIR: See you in the morning.

20 ---Whereupon the hearing was adjourned at 3:30 p.m., to  
21 be reconvened on Wednesday, February 5th, 1992  
22 commencing at 9:00 a.m.

23  
24  
25 MC [C. copyright 1985].















